American Cinematographer

ASC MAGAZINE

October 1930

25 Cents a Copy

A Publication for Professionals and Amateurs

A Few More of Our Current Photographic Successes

Negative? DU PONT Naturally!

ESTABLISHED 1802

		CAMERAMEN
"Monte Carlo"	..Paramount	Victor Milner
"Playboy of Paris"	Paramount	Henry Gerrard
"Her Wedding Night"	Paramount	Harry Fischbeck
"Anybody's Woman"	Paramount	Charles Lang
"Feet First"	Harold Lloyd	Walter Lundin
"Viennese Nights"	Warner Bros	Frank Good
Leathernecking"	R-K-O. .	Roy Hunt
Cock O' the Walk"	Sono-Art .	Harry Jackson
What A Widow"	United Artists	George Barnes
"A Lady Surrenders"	Universal.	Jackson Rose
'Spurs"	Universal	Harry Neuman
' Those Three French Girls"	M-G-M .	Merritt Gerstad

"The DU PONT Trade Mark Has Never Been Placed on an Inferior Product"

●

SMITH & ALLER, Inc.

PACIFIC COAST DISTRIBUTORS

6656 Santa Monica Boulevard ◆ HOllywood 5147

HOLLYWOOD, CALIFORNIA

FOR

DU PONT PATHE FILM MFG. CORP.

35 West 45th Street New York City

Bell & Howell master craftsman, a 20-year veteran, measuring accuracy of lens centering in turret opening of B & H Standard Cameras. His aperture centering gauge, which checks each turret lens opening for both focusing and photographing apertures, insures accuracy within .0005 of an inch

Turning Atoms *inside out* looking for better movies!

TECHNICAL improvement in motion pictures is sought in many places, and in many ways. In the Bell & Howell Engineering Development Laboratories, even the atom and its electrons are scrutinized for clews. To lengthen the life of gears and punches, to reduce friction in moving parts, to make a single part do the work of two . . . these are the object of relentless search, beginning with the molecular structure of the metals themselves, and with never an end to the quest.

In more than 23 years of endeavor, Bell & Howell have brought an enduring order into the technical phases of movie-making. In Bell & Howell Standard Cameras, Printers, Perforators and Splicers are seen the fruits of this labor.

Every problem in movie-making is made a Bell & Howell problem. Highly trained and of long experience, its engineers are as eagerly searching today as they were nearly a quarter of a century ago.

You are invited to submit your particular problems to the Bell & Howell Engineering Laboratories for solution, with the assurance that skill and understanding of the highest order are turned to the task.

BELL & HOWELL

BELL & HOWELL CO, Department V, 1848 Larchmont Avenue, Chicago, Illinois
New York, 11 W 42nd St · Hollywood, 6324 Santa Monica Blvd · London (B&H Co., Ltd.) 320 Regent St · *Established 1907*

Contributing More Effectiveness to Motion Picture Production

Producers and directors strive continually to increase the effectiveness of their pictures, not only from the dramatic angle but also from the mechanical and artistic standpoint. Consequently the most modern equipment is demanded on the set. Mole-Richardson lighting, electrical and sound equipment is widely employed by the industry because it is scientifically designed to give maximum elficiency and results. It requires minimum operating expense, incorporates many time-saving features and offers full dependence in operation. In producing this superior type of equipment, Mole-Richardson steadily contributes more elfectiveness to the production of talking motion pictures.

If It Isn't An (M) It Isn't An Inkie.

MOLE-RICHARDSON INC.
STUDIO LIGHTING EQUIPMENT
941 N SYCAMORE AVENUE · HOLLYWOOD, CALIFORNIA

◆ AMERICAN ◆ CINEMATOGRAPHER

A Technical and Educational Publication, Espousing Progress and Art in Motion Picture Photography

SUITE 1222 GUARANTY BUILDING, HOLLYWOOD, CALIFORNIA

HAL MOHR
President, A. S. C.

HAL HALL
Editor-in-Chief and General Manager, A. S. C.

EMERY HUSE
Technical Editor, A. S. C.

BOARD OF EDITORS: William Stull, Herford Tynes Cowling and Ned Van Buren

Volume XI | OCTOBER, 1930 | Number 6

CONTENTS

	Page
WHY WIDE FILM? by Gilbert Warrenton, A. S. C.	9
THE MOTION PICTURE AS AN ART, by J. Tarbotton Armstrong	11
SOLVING PHOTOGRAPHIC AND LABORATORY PROBLEMS IN AFRICA, by L. E. Clark	12
SOUND STAGE EQUIPMENT AND PRACTICE, by L. E. Clark	15
UP IN THE AIR WITH THE NAVY, by Elmer G. Dyer, A. S. C.	17
AS THE EDITOR SEES IT	18
AMATEUR MOVIE MAKING, by William Stull, A. S. C.	34
PROFESSIONAL AMATEURS, by William Stull, A. S. C.	36
EXPLORING MEXICO WITH A 16 MM. CAMERA, By Phil Townsend Hanna	38
ABOUT LENSES	40
COVER, photograph by Russell Ball.	
FRONTISPIECE, photograph by Elmer G. Dyer, A. S. C.	

FOREIGN REPRESENTATIVES

Georges Benoit, c-o Louis Verande, 12 rue d'Aguessau Paris, 8e
John Dored, Paramount News, Paramount Building, 1 Rue Meyerbeer, Paris IXe, France
Herford Tynes Cowling, Eastman Kodak Company, Rochester, New York, Eastern Representative
Harold Sintzenich, Eastman Kodak Company, Bombay, India

PUBLISHED MONTHLY by THE AMERICAN SOCIETY of CINEMATOGRAPHERS, INC., HOLLYWOOD, CALIFORNIA

Established 1918 Advertising Rates on Application Subscription United States $3.00 a year; Canada $3.50 a year; Foreign $4.00 a year; single copies, 25c

Telephone GRanite 4274

Copyright 1930, by the American Society of Cinematographers, Inc.

A scene from "Anybody's Woman," a Paramount picture

Shown in the right light

HERE SHE IS! You've seen her a thousand times on the screen. Her demure little smile is warm and friendly. Midst elaborate scenery and dazzling surroundings, she never loses her piquant charm. National Photographic Carbons have given "light men" and photographers the chance to present her at her best, making her success theirs as well.

For medium and long shots, National White Flame Carhons have actinic carrying power identical with that of pure sunshine. Every graceful gesture is registered, is made an exciting pattern of light and shadow. Use them for sharp moonlight effects, for brilliant, clear-cut contrasts, for scenes exacting in detail.

Stars have learned, "light men" and photographers have learned, tbat National Pbotographic Carhons are always dependable. Whether in the daily routine of studio work or for unusual scenes under the most exacting conditions, National Photographic Carhons will help you get your stars over.

NATIONAL CARBON COMPANY, INC.
Carbon Sales Division: Cleveland, Ohio
Unit of Union Carbide UCC *and Carbon Corporation*
Branch Sales Offices: New York, N. Y. Pittsburgh, Pa. Chicago, Ill. Birmingham, Ala. San Francisco, Calif.

National Photographic Carbons

Service....

THE LAKIN CORPORATION, manufacturers of *Laco Lites*, is pleased to announce the addition to its organization of an efficient rental department

---

The activity of this new branch of the Laco concern will be built around the word SERVICE.

Mr. H. H. Harrod is in charge of the *Laco* Rental Department, assisted by competent and experienced associates. In securing the services of Mr. Harrod, the Lakin Corporation has chosen a man whose ability is well known to the motion picture industry . . . .

"If it's not a Laco it's not a silent!"

LAKIN CORPORATION

1707 Naud Street CApital 5387
LOS ANGELES, CALIFORNIA

Nell Shipman

GARY COOPER and KAY JOHNSON

in

"THE SPOILERS"

Cameraman Harry Fischbeck — Make-up Artist, James Collins

A PARAMOUNT PRODUCTION

Max Factor's Make-up

USED EXCLUSIVELY

MAX FACTOR MAKE-UP STUDIOS

Highland Avenue at Hollywood Boulevard

HOLLYWOOD, CALIFORNIA

Tel. HO-6191 — **Cable Address "Facto"**

Max Factor's Panchromatic and Technicolor Make-up for the Screen

Chicago Office 444 West Grand Ave.

Other Foreign Branches

40 Her Majesty's Arcade, Sydney, Australia
67 Foochow Road, Shanghai, China
399 West Street, Durban, So. Africa
Burson Smith & Co., Honolulu, T. H.
49 McCall St., Toronto, Canada

London Office 10 D'Arblay Street

Max Factor's Theatrical Make-up for the Stage

WAS WEAK

Tanar Corporation, Ltd.,
1107 - 15 North Serrano Ave.,
Hollywood, California, U S A

Dear Doctors.

Before the advent of Sound, my commercial film business was in a healthy condition, but directly sound came into vogue I was troubled with blank spots in my bank book and I couldn't sleep nights My hair started to come out in handfulls, and I lost my appetite

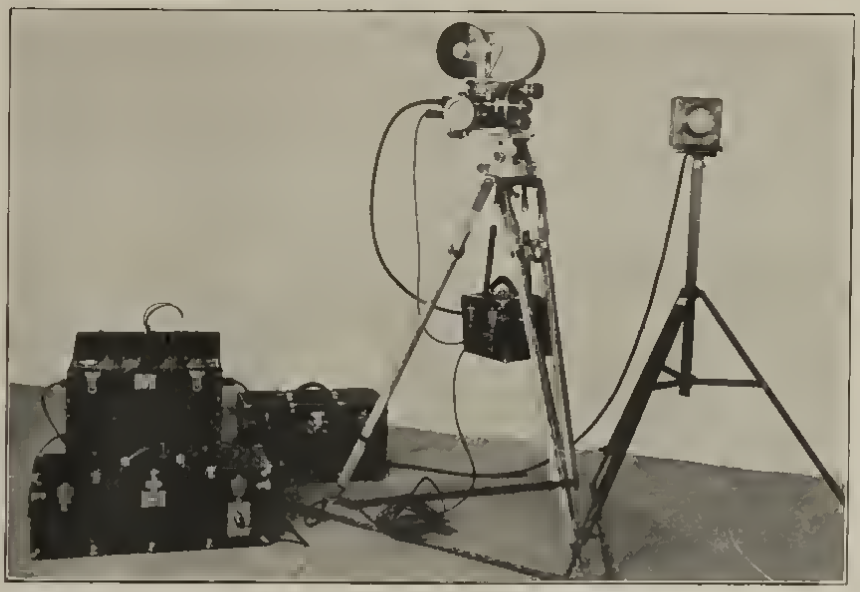
Some friend suggested I try Tanar Portable Sound System, so I sent for the three boxes and after using these for a short time my bank book began to resume its normal appearance, my hair grew back in, and my appefite returned I am still unable to sleep nights due to so much business I car highly recommend your treatment to anyone suffering from bad business

Yours gratefully,

E M L

(Name on Request)

Tanar is Guaranteed to Relieve Poor Business!



The Complete Treatment

SAW OUT THE COUPON

and send for details of complete treatment!

TANAR CORP Ltd.,
1107-1115 No Serrano
Hollywood, California

Dear Doctor.

Please rush me complete details of your TANAR PORTABLE SOUND SYSTEM TREATMENT

Name

Address

SHADOWS

PHOTO BY ELMER G DYER, A S C

Why Wide Film?

Wide Screen Image on 35 mm. for Economy

by **GILBERT WARRENTON, A. S. C.**

FOR the past thirty years, the physical form of motion picture films and apparatus has conformed to a single, universally accepted standard. During that time, the motion picture has grown from a penny-arcade concession into the world's major entertainment, from a novelty into a major industry. And the foundation of that growth lay in the fact that a motion picture, no matter where it was made, could be reproduced in any other place, on any projector. Whatever might be the artistic form of the picture, its physical form was so standardized as to give it the possibility of world distribution.

Today the motion picture industry is seriously discussing a radical departure from these existing standards of physical form. It is discussing the use of a considerably wider film, bearing a picture of radically different proportions, and moved by perforations of an entirely different size and pitch. Furthermore, it has as yet determined upon no set standard for these new dimensions. Some experts advocate a film 70 mm. wide, some advocate one 65 mm. wide, some favor one 50 mm. wide, while others prefer one merely 40 mm. wide. Furthermore, while all are agreed upon a change in the proportions of the present picture, there is no unanimity as to the correct proportion; some advocate a ratio of 3 to 6, some one of 3 to 5, some one of 3 to 4½, while others are satisfied with a return to the old silent standard of 3 to 4. In a word, there is no agreement save in disagreement. Almost every producing organization has its own preferred standard, and in the present competitive situation, there is little hope for eventual agreement.

To the non-technical observer, this may appear to be a vast deal of bother over insignificant details. But just what will be involved in such a change in the physical dimensions of the film? The answer is—everything. Everything that in any way contacts the film from its origin in the factory to its destination on the screens of the world's theatres will be affected. In the factory, the slitting, perforating, and packing machinery will have to be altered or replaced. In the studio, the cameras, magazines, cases, rewinds, moviolas, splicers, projectors, and recorders will have to be replaced or altered. In the laboratory, the developing machines, racks, and tanks, the printers, the rewinds and splicers, the polishers, and waxing-machines will have to be changed. In the theatre, the projectors, sound-heads, rewinders, splicers, and screens will have to be renewed. And in between these places, the very shipping cans, boxes and reels will have to be replaced.

Obviously, the cost of such a far-reaching change would be tremendous. A recent, conservative estimate places this figure in excess of $250,000,000.00. In addition to this, the additional cost of the film stock for release-prints alone has elsewhere been estimated at more than $10,000,000.00 **annually.**

And these vast sums are to be expended by an industry which has only recently sunk $500,000,000.00 in sound equipment, and in the face of a steadily decreasing business!

Now, granting that some definite standard of wide-film dimensions be adopted before the industry takes this epoch-marking step, what benefits can possibly be expected?

Firstly, the larger frame will permit the use of larger screens, and larger theatres. It is claimed that the ultimate limit in projection enlargement for the present standard film has now been reached in the larger theatres, and passed in such houses as the Roxy and Paramount. BUT—more than 90% of the world's theatres are of less than 1,500 seat capacity.

Secondly, the novelty of the larger screen will have a stimulating effect upon the box office. BUT—the public has proven that it is interested in entertainment, not in technical novelties. If any doubt of this fact exists, consider the increasingly marked public interest in good, silent pictures, as against the once-profitable novelty of 'talkies.' Furthermore, the proponents of natural-color cinematography have repeatedly argued that the public would overwhelmingly approve of color—which is a far more noticeable technical feature than a large screen—and the public has repeatedly proven itself as apathetic regarding color as it was expected to have been enthusiastic.

Thirdly, the wider frame will give the director and cinematographer a more natural, a more dynamically-proportioned picture with which to work. To this writer's mind, this is the only irrefutable argument in favor of a wider film. BUT—is this purely artistic consideration of sufficient practical value to entice an additional ten million dollars through the box office window each year—to say nothing of repaying the staggering cost of replacing a world's cinema apparatus?

Furthermore, is it necessary to change to a wider film to gain the advantages of a wider screen?

Approximately five years ago the increasing size of American theatres first brought to light the need for larger screens. At that time the experiment of using shorter-focus projection-lenses, which resulted in a larger projected image, was tried. This was first used, I believe, in the roadshowing of "Old Ironsides," and was exploited under the trade name of "Magnascope." Practically the only difficulty encountered was in the fact that the increased enlargement increased the granularity of the projected image to a more or less objectionable degree.

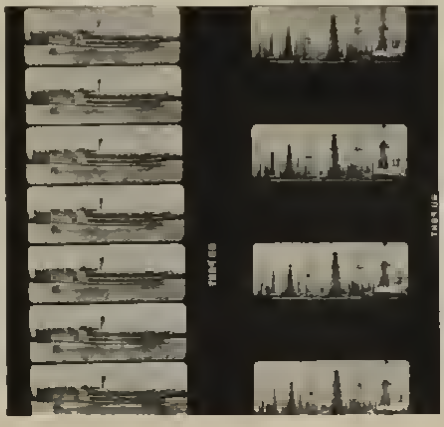


Fig 1

Fig 2

Since then vast strides have been made in the resolving power of both negative and positive emulsions, and in the methods of processing film. Recent experiments have shown that the only limiting factor to the size of the projected image is the resolving power of the

negative film. With the introduction and perfection of machine development of negative—a development largely due to Mr C Roy Hunter, Superintendent of the laboratory of the Universal Film Company—this resolving power has been increased to an extent which makes the use of larger screens not only possible, but practicable Proof of this is the fact that at the Carthay Circle Theatre, in Los Angeles, the first picture to be released upon a wider film was immediately followed by Universal's "All Quiet On The Western Front," many sequences of which were, by means of the Magnascope, enlarged to identically the same size as had been employed for the previous wide-film picture, **with no loss of photographic**

Gilbert Warrenton, A S C

quality, and without any traces of either the weaving or the optical aberrations which have prominently characterized the wide film pictures. Furthermore, in at least one of the smaller theatres in the Los Angeles district (the Gateway Theatre, in Glendale) the management makes a regular practice of similarly enlarging every feature picture played, and, further, of using a special projection-aperture which masks the frame off to the accepted 3 x 6 Grandeur proportion According to several impartial observers (among whom may be named Karl Struss, A S C), absolutely no loss in photographic quality is noticeable in the projection in this theatre In fact, the first picture with which this practice was followed was the 35 mm version of the wide film picture which was just referred to So successful was this method of wide-screen projection that no difference was noticeable between the quality of the original wide film version and that of this synthetic wide screen experiment The only difference lay in the fact that, due to the different proportions of the normal 35 mm Movietone frame and the 3 x 6 aperture used to achieve the wide-screen effect, in close shots heads and feet were sometimes cut off rather more abruptly than was originally intended. However, this difficulty could in a great measure be remedied by careful framing by the projectionist

However, from an artistic standpoint, this question of composition is a somewhat serious one, particularly in the case of close-ups of a big head, where the head may be cut off at the eyebrows or chin For the composition of such a close-up—or of any other shot, for that matter—is often a vitally important part of the scene, and anything that damages that composition is in no inconsiderable degree damaging the picture as a whole

But this situation is bound to repeat itself as long as a picture composed primarily for a 3 x 4 proportion is reduced to a 3 x 6 format The logical remedy for this would be to compose the picture primarily for the 3 x 6 rectangle, and secondarily for the 3 x 4 in other words, to advance the present general practice of composing for both the silent (disc) and Movietone standards, by using a frame reduced to a 3 x 6 proportion, and centering the action in a 3 x 4 area in the center of the larger frame.

Some five years ago this writer witnessed an experimental showing of a wide-film process using 3 x 6 proportion As a practical cameraman, he could not help but appreciate the artistic value of the wider frame, but, as a practical cameraman, he could not help, either, but see the tremendous disadvantages of a changed film-size Therefore he set himself to the problem of securing this more desirable proportion without change of film dimension

In these researches the object was to produce a picture of 3 x 6 proportion on standard 35 mm film, but at all times keeping the main story-telling action in the center of the screen in a 3 x 4 proportion (see figure 3), by doing this it would be possible at any time to make an enlarged picture standard size and proportion from this negative without making any other change.

At this time the writer learned that Mr C Roy Hunter was working along a similar line and in combination with his laboratory achievements, these researches have now been carried to a successful fruition, and it is with pardonable pride that he is able to state that he has been able to secure, upon standard 35 mm film, a wide screen image which combines all of the

Fig 3

artistic and technical advantages claimed for wide film, with none of its disadvantages, and with the proven optical superiority and production practicability of standard 35 mm film

In so far as the photographic apparatus is concerned, the only change required is the substitution of an aperture of reduced height· 360" instead of the present standard of 720". This, when the standard 07" sound track is used, gives a picture-proportion of 3 x 6 This frame may be used as in figure 1, with the camera mechanism adjusted to a pull-down of but two perforations at a time, or as in figure 2, with the camera mechanism unchanged Inasmuch as the latter procedure allows the projection of the film in any standard projector, with only the addition of the reduced aperture-plate, it is probably preferable An outstanding advantage of this method of making wide screen pictures is that it not only allows the use of present standard apparatus throughout, unchanged save for the reduced apertures in camera and projector, but that it gives sharper negatives, by virtue of the fact that the longer focus lenses demanded for wide film photography are not needed This obviously results in a far greater depth of focus, which, in turn, augments the pseudo-stereoscopic effect given by the wide screen In wide film

(Continued on Page 46)

The Motion Picture as an Art

by **J. TARBOTTON ARMSTRONG, F. C. S.**

Curator, Motion Picture Museum, University of Southern California

DO YOU realize that the average child of three today knows more than children of an older generation knew at eight, and all because of the "Movies" The motion picture industry has come to have a great influence upon people of all ages, especially children

Now, the question arises as to what they see, and how it will affect them Children may be educated by the movies They may be taught to appreciate the artistic, and to get a glimpse of art They may, on the other hand, be given impressions which are useless or even detrimental The women of Birmingham, England, recently complained about the nervous strain which certain types of 'thriller" movies produced among children Various other complaints are often made, many, no doubt by the over cautious and over sensitive, but many others are worthy of consideration Anything so capable as the motion picture, of leaving vivid impressions, is bound to be a powerful factor in the world Children receive their ideas of life from the movies, and likewise, American life is shown to the foreign countries There is much danger that false impressions be given and never forgotten

But, aside from being a mere amusement, it should be remembered that a good picture must be an artistic achievement as well Indeed, all the arts should be combined, and the artistic potentialities are boundless But, unfortunately, the average picture is of an inferior type, and only upon rare occasions is there produced a picture of artistic worth The reasons for failure to reach a high standard of art is often failure to realize that motion picture work is an art It deserves the same preparation, interest, and devotion required by the painter, the sculptor, the musician, or any other sincere artist

One of the greatest faults has been in adaptation Great works of literature are taken and intermixed with the ideas of the adaptors This is done without thought or reason, but mainly because the director does not realize that art is chiefly beauty Gags may be put into stories of serious structure, history changed right and left, scenes altered for the benefit of the star, and many changes made for no known reason Sometimes the scenes are changed in the benefit of economy, but often it would be just as easy to keep closer to the original story But everything must be "adapted" A story is told of a playwright who received the plot for his second play from the motion picture version of his first

Another fault is providing vehicles for stars instead of stories of interest Perhaps in many cases the star would benefit also if a good story were provided Fond as the audience may be of its favorite stars, it wants to see them act in something of interest Mere acting is not enough

Scenarios are often not adequately prepared They are written too quickly, and produced too quickly Details are often forgotten Historical pictures may be true neither to their times nor their settings Standards of living are often grossly misrepresented Many scenario writers have little knowledge of the types of characters they write about, even though they be modern Consequently, many pictures follow type form, with standard type characterizations even more defined than those of poorer stage plays

The screen drama is notorious for lack of originality, or inventiveness The same situations are used over and over again It is generally possible to know the ending before the picture has been half shown Little discrimination is used in the selection of incidents Tragedy is generally avoided, and, when used, often goes to the other extreme of sentimentality Pathos should have a part in motion picture scenarios, but should not be overdone

It is probably true that the general public has not been educated to understand a better type of films But since art has an appeal to even the uninitiated, a gradual improvement could be made The standards could be raised by degrees, and soon a better type of picture would be demanded Lack of education in motion picture appreciation is but another phase of lack of understanding of all forms of art

However, mere spectacle alone should be avoided, because without a plot, a motion picture will lose the attention of the audience This is shown by the failure of many pictures of the revue type to have the popular appeal expected In this connection it might be suggested that while a motion picture may combine all arts, it is not well to expect a star to be proficient in all of them and it is certainly not advisable to have a star make a mediocre attempt at something, especially when a story does not require it If singers and dancers are required, let them be stars who have also proven themselves along these lines Every actor has not a good singing, or even a good speaking voice The latter may be acquired by proper training in a reasonably short time, but the former requires years of study

But, to return to another feature of spectacle, the motion picture has a great advantage in being capable of bringing before the people spots of scenic beauty Beautiful natural settings are superior to studio made sets However, it is often fortunate that no experts delve into the tropical vegetation as displayed upon the banks of the Santa Ana River, or the Canadian Northwest as typified by the hills of Universal City Residents of Southern California often chuckle at recognizing places they know, close at home, as supposed to be somewhere in China, Africa, or the South Seas However, settings should be beautiful, unless the plot demand otherwise If possible, they should also resemble the authentic

Motion pictures with large mob scenes require special treatment as to artistic grouping In many cases, the mobs may not be well trained Like any other picture a motion picture demands a certain symmetry, which, appearing natural, requires careful planning Some attention also might be paid to the succession of scenes, in order that the mind of the spectator be not confused with too quick changes of environment, groups of characters, action, and every thing else Such changes throw the art of the picture, and often the story itself, into confusion

Then there is the art of the individual actor Despite the invasion of dialogue, it should be remembered that nowhere but in the Motion Pictures can the art of pantomime be fully developed The expression on the face of the greatest stage artist can not be seen from the back of the house but movement upon the screen is every bit as magnified as the figures themselves Dialogue is important—but pantomime, being natural to the movies, should be used to the fullest advantage

Dialogue upon the screen is something that requires a great deal of development Stage dialogue has been in existence for thousands of years, in constantly changing form, it is true, but nevertheless plays produced in Ancient Greece are sometimes produced today The modern stage is, by necessity, limited as to setting and to number of scenes The plays of Shakespeare bear the strongest resemblance, in structure, to a modern talking picture, with constantly shifting scenes but it is a long time since plays were written as Shakespeare wrote them

Writing film dialogue, then, may be considered a very new form of writing, with which much experimentation will be necessary The mere adapting of stage plays is not enough,

(Continued on Page 44)

Solving Photographic Problems

Some Inside Facts on Diffi

by **WALTER**

The Cutting Room at Nairobi

THE STORY of the success or failure of any motion picture unit working upon locations greatly removed from the home lot is invariably the story of the success or failure of the cinematographers and laboratory technicians Story, acting, direction, and management may all be of the best, but unless the men behind the cameras and developing racks are not only masters of their respective crafts, but able to perfectly coordinate their activities, the picture's outlook is dark, indeed And the importance of this perfect coordination increases with the remoteness of the location, until in the tropics it becomes the most vital factor of all

And of all tropical locations, Africa is in many respects the least hospitable to the photographer Light, terrain, climate, and an inadequate water supply combine to make life photographically miserable Only the most expert of cinematographers and laboratory men can hope to beat this combination, and the names of those who have done so could easily be counted on the fingers of one hand

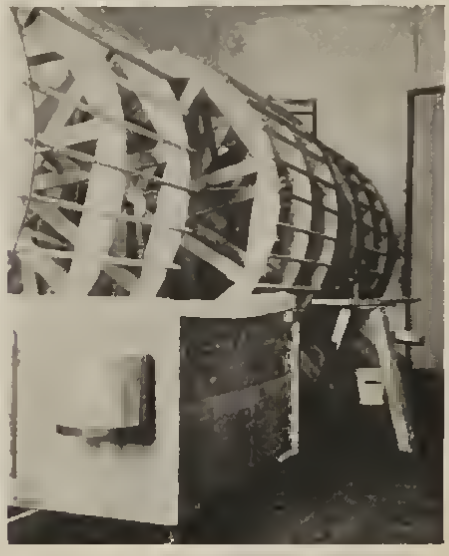
The latest team to succeed in this is the "Trader Horn" unit from the Metro-Goldwyn-Mayer Studio In it, Clyde de Vinna, A S C, had charge of the photography, while Fred Meeks and Dominick DeCenco operated the laboratory Between them they turned out hundreds of thousands of feet of the most perfect negative that ever came out of Africa Not a foot had to be discarded or remade on account of photo-technical flaws, while, in the main, its quality would bear comparison even with that of the work of M-G-M's efficient home lot Such perfection is obviously indicative not only of extreme capability on the part of the cinematographers and the laboratory technicians, but of a most unusual degree of cooperation between the two Each one not only knew his own job to the last detail, but also had a thorough and sympathetic understanding of the other man's aims and problems The result was technically perfect film—a firm foundation whereupon Director van Dyke and his players might build a successful picture

"The greatest drawback to African photography," Mr de-Vinna states, "is the combination of the rather high altitude and the fact that the equatorial sun is virtually overhead so much of the time Most of the British East Africa, Tanganyika, Kenya, and the Congo where we operated, lie at altitudes in excess of 5,000 feet above sea level Therefore the atmosphere is remarkably rare and clear—very much as it is in the vicinity of Denver, Colorado, for example But add to this rare and non-refractive atmosphere the vertical sun of the equator, and you get a combination that spells trouble You will find that your highlights get a tremendous amount of light, while your shadows are like so many pools of ink The thin air doesn't refract, and give any half-tones, nor any sort of illumination in the shadows An object is either very, very bright, or perfectly black, there is no half-way measure Beside this, the high angle of the sun—and the high resulting temperature—forces the photographer to work only before ten o'clock in the morning and after four in the afternoon This is not only because of the absolutely impossible top-lighting which this condition gives, but also because of the shimmering heat-waves which make anything but close-ups impossible. Incidentally, the heat swiftly removes any rash desire to work from the perspiring cameraman

"On the other hand, these same combinations of solar position and the altitude of the locality make it possible to work unbelievably late and early, for as the sun approaches the horizon, the light does not get yellow, as it does in temperate countries

"Next to this combination of heat and light, the photographer's worst enemy is the peculiar reddish dust of which most of this part of Africa seems to be made In the wet season, this dust becomes some of the world's worst and stickiest mud, while in the dry season, it becomes a fine, powdery dust, which has a remarkable faculty of getting into everything I don't know how Fred fared in his laboratory in Nairobi, but I know that wherever I was, this dust kept us busy cleaning cameras and lenses

"In most tropical photography, the business of keeping and transporting the exposed films is a serious problem, due to the combination of intense heat and excessive humidity In Africa, on the other hand, this is not particularly troublesome, for although you have intense heat to contend with in many districts, you have the benefit of a delightfully dry climate



The Drying Room at Nairobi

and Laboratory in Africa

culties of Tropical Work

BLANCHARD

Therefore, if the film is only decently protected from the direct rays of the sun, one need expect very little trouble in transportation In our own case, we always saw to it that when our own trucks were carrying film shipments, the film cases were always placed well toward the bottom of the load Similarly, the officials on the trains and boats which carried our shipments of exposed film from wherever the company might be, to the laboratory in Nairobi, very courteously took similar pains to protect the films from the heat and sunlight, so we had absolutely no trouble from this cause, although our shipments occasionally took better than two weeks to reach the lab

"Finally, I want to pay tribute to Fred Meeks and Dominick DeCenco, who ran the laboratory They were up against tremendous difficulties, but they overcame them so completely that, well, if by some miracle the complete lab on the home lot in Culver City could have been transplanted to Africa, I don't think we could have gotten better service Mr. Nicholaus couldn't have chosen a better representative than Fred

Clyde DeVinna on location in Africa

Meeks, for Fred not only knew his own job to perfection, but he also knew what I was up against, and what effects I was aiming for And he went out of his way to help me get those effects I have known of his spending an entire day merely developing tests, and altering his developer formula until he found the proportions that would exactly bring out the best in the particular consignment of film in question And this was not an exceptional performance, for him, but his invariable practice I can't give him too much credit for his share in whatever success the picture may have "

Mr Meeks is equally enthusiastic over the way de Vinna cooperated with him "Clyde," he says, "is the only cameraman I've ever known who really goes out of his way to help

A shipment of film arrives at Nairobi "Lab" from the Congo Fred Meeks, Dominick DeCenco and "Sammy" are seen, left to right-

the laboratory men For instance, he always saw to it that I got the fullest information about each scene, and plenty of tests, and he was always ready to do his best to help me And, really, he was up against a mighty tough proposition My own work? Oh, that was nothing; about all I could do was to try to keep my 'soup' balanced so it fitted the kind of negative that conditions made Clyde shoot Clyde's radio was a big help in that, for he could give me detailed information on each shipment of film, while I could give him equally detailed reports as soon as the negative was developed —and far sooner than if I'd had to depend on the usual systems of communication—post, runners, trucks, etc But even the radio wouldn't have saved things if Clyde hadn't known his business to a T, for transportation was so slow, and the troupe moved around so fast, that by the time a lot of negative would reach me, the troupe would be working two or three hundred miles away, with no possibility of getting back for retakes.

"From the laboratory man's angle, the two biggest troubles in that country are the dust and the water-supply I think that Clyde told you about the troubles he had with that infernal red dust that seemed to seep into everything, well, you can imagine that we in the lab had our share of trouble with it, too In spite of all our care, it persisted in getting into everything, why it didn't spoil tens of thousands of feet of film I don't know Of course, we did all that we could to make our lab dust-proof We hunted until we found a really satisfactory building, then we did all we could to make that a miniature of a big studio lab We had brought a lot of electric fans and ventilators with us, and we rigged them up so that all the air in the building came through them, and was more or less thoroughly washed and filtered—yet in spite of that the dust got through We lined the walls with cloth, taped up every chink, and kept the floors well watered—but still the dust turned up

"The water supply—or rather the lack of it—was even more serious They were at the time undergoing a drought of even greater proportions than that that affected our middle-western states this summer. Water was being virtually rationed out; it was actually illegal to wash your car with water! And yet, to do our work thoroughly, we had to use gallons of water every day We were actually warned several times by the police, but what could we do? Had we been able to get any other supply of water, we would gladly have done so, for the local water contains so much sediment and mineral deposit that it has to be filtered very thoroughly before it is chemically pure.

"The climate was not such a serious trouble to us as we had at first expected It gave us no trouble at all in the shipment of our films and chemicals, but the unusual dryness did make a considerable difference in the way our films dried after processing When we first got the lab going, we found that the films dried in from ten to fifteen minutes, way too fast for safety So, when drying films, thereafter, we would stop the fans and hose down the floor, so that the drying-time could be stretched to somewhere near normal

'Of course, in our developing, we used the familiar Stinemann tanks and spiral racks

' When we started shipping the film back to America, we found that the only precaution we needed to take was the use of the conventional galvanized containers, into which we placed a bit of camphor to keep the film flexible In the interests of safety, we would ship the negative of a scene on one boat, and the print of it on the next, so that no possible accident could rob us of both films of the scenes

Aside from these technical troubles, I think that our greatest difficulty lay in the matter of getting good assistants In British East Africa, you know, there are three classes the Whites who are merely executives, the Hindus, who do all the skilled and clerical work, and the Natives, who do what is left There is no place in this scheme for the poor, White

The Nairobi Dark Room

labourer Therefore, the average unemployed White man there is very likely to have something the matter with him We tried a number of White assistants, but they either proved themselves ne'er do wells, or, if they were capable, left us whenever a permanent job was offered them Among these White assistants, we ran into one strange case. The man in question was a rather famous big-game hunter—a man whose courage was unimpeachable, as he had proven at the expense of many lions, rhinos, and elephants He was, at the time, down on his luck, he was really in desperate need of the few extra shillings that his job with us would bring him And yet, he was absolutely unable to do the work When he first reported for duty, and I outfitted him with the regulation laboratory costume of rubber boots, gloves, and apron, he began to get nervous, and to enquire whether or not the chemicals we used were dangerous. But when I led him into the dark-room for the first time, his courage ebbed swiftly I do not know just what it was, but I imagine that it was simply fear of the dark, mysterious unknown The whirring of the fans, the dripping of water, the smell of the chemicals and, most of all, the darkness, relieved only by a little, green light, as the English say, 'got the wind up him,' and within a few minutes he turned and bolted We never could persuade him to come back

'After trying many other assistants, we finally got a young Native boy who was a jewel His real name was such a jaw-breaker that none of us could pronounce it, so we christened him 'Sammy' Sammy was most unusual among the native boys, for he was a tremendous worker, and thorough He had one disadvantage, however, as a dark-room helper, for his complexion was almost the same shade as the darker portions of the room when the lights were out; and, as he invariably took of his shoes before entering the lab you could neither hear him nor see him approaching in the dark You could, however, usually get ample warning of his approach through your nose He had a distinctly pungent personality In every other way however, Sammy was a jewel of great price Incidentally, he was the local Rockefeller while he was with us, for we paid him the scandalous wage of $12 50 a month Inasmuch as the usual plutocrats of the native community—the Askaris or native police—only receive $5 00 per month —you can imagine that Sammy was the envy of the native community

"But to return to things photographic, the only rules I can lay down for successful laboratory work in Africa are: 1 Care in all things, small or great 2 Cleanliness 3 Careful study of the photographic problems the cameraman is up against 4 And still more care If these are observed, and if the photography is in the hands of a really competent cinematographer like Clyde de Vinna, anyone can feel sure of getting first-class films in Africa, or anywhere else"

Sound Stage Equipment and Practice

A Technical Digest Paper from the Academy of Motion Picture Arts and Sciences

by **L. E. CLARK**
Technical Director of Sound, Pathe Studios

LABORATORY equipment for faithfully recording and reproducing sound is fairly easy to get and is capable of precise technical definition. On the other hand, equipment for recording sound in connection with photography in motion pictures is far less simple, as was disclosed as soon as sound recording equipment developed in eastern laboratories was brought to Hollywood to be put into actual production. Early talking pictures showed this very definitely. Many qualities of value in the silent picture were now sacrificed to obtain technically perfect sound recording, with the result that the first talking pictures were very poor photographically and their action stilted and unreal. The problem was immediately seen, however, and production attention focussed on relieving the situation. Great strides have been made toward restoring and extending the values which were developed in the silent motion picture. This process has been due in large measure to improvements not so much in the essential elements of recording—the microphone, the amplifiers, the disc or film recorder—but rather in the auxiliary equipment.

The necessary auxiliary equipment is substantially the same for all the recording methods now in use in the Hollywood studios. These may be divided into three classes: sound recorded on wax discs, sound recorded on film by the variable density method and sound recorded on film by the variable area method. The essential differences between these systems lie in the method of placing the final record upon a receiving medium. In the first case, standard phonograph practice is used in cutting a wax record. In the second case, the intensity of a light is modulated to vary the exposure of the film and in the third case, the size of an optical image is varied in order to produce a similar variation in area of exposure. With the exception of these differences, which impose but slight limitations in response characteristics, the three types of recording equipment are identical, and accordingly the auxiliary devices which will be discussed in this article are equally applicable to each of the methods.

Sound Stages

In silent picture production no attention was paid to noise. The concentration of the actors on their work was so intense that the outside noises did not bother them. The microphone, however, is no discriminator of noises and the microphone's all-absorbing ear will add to the main theme the obligato of the carpenter's saw, or the rhythmic overtone of an airplane motor.

The rush to produce the first sound pictures was so great that they were shot without sound stages. Work had to be done at night, or traffic stopped in the street outside. As soon as possible, however, sound stages were built. These have two primary functions: to keep all outside sounds from getting on to the stage and to keep sounds generated within the stage from reflecting from wall to wall and thus producing excessive reverberation. As the first of these requirements naturally means that no open doors or windows are permissible in the stages, artificial means of controlling air conditions and temperature must be provided.

The sizes of these stages vary from 60'x80,' in the case of some of the first ones constructed, to as large as 150'x225' in the large stages. Size was originally limited by acoustic conditions but recently has been governed by studio space and production requirements. It has cost many millions of dollars to build the sound stages with which all the studios are now equipped.

To produce adequate soundproofing in general requires a double wall construction, virtually a building within a building, the inner structure being supported on separate foundations from the other one. Care must be taken to prevent telegraphing of sound from the outside structure to the inside through any contact of rigid material.

The floor of the sound stage is a very important factor. It too must be sound-proof and as a practical requirement, the top layer at least must be of wood to facilitate constructing sets. This wood can be laid over a concrete foundation in the case of a stage whose floor is to be at ground level, or it can be floated upon a sub-floor filled with rock-dust, cinders or sand. The purpose of these latter materials is to produce a heavy, non-vibrating base.

Synchronization

The coming of sound pictures immediately required a fixed speed for photography and projection. Silent pictures could be photographed over a wide range of speed, from as low as fifty feet a minute to over a hundred. Sound pictures must be photographed at a constant speed, a rate of 24 frames a second, which mounts to 90 feet a minute, being standard. Furthermore, the picture and sound negatives must run always at precisely the same speed and must also be in perfect synchronization. For obtaining this perfect synchronization of picture and sound, additional machinery was necessary.

This equipment could be either mechanical or electrical, but from the standpoint of mobility of camera equipment the mechanical connection between sound and picture was immediately out of the question. Electrically there are two methods of keeping two machines operating in absolute step with each other. The first and simplest is by the use of the synchronous motor. Any number of synchronous motors when operated off the same power circuit will hold exactly the same speed relationship with respect to each other over long periods of time. The accuracy with which the speed is maintained is remarkable. Two synchronous motors can never get more than a very small fraction of a revolution out of step, even though they have been running for months or even years. A second and equally accurate synchronous method is by the use of interlocking or, as they are sometimes called, Selsyn motors which, due to their peculiar construction, constitute what may be known as an electrical gear. Both of these methods are in use and are quite satisfactory after having been adapted to studio needs.

We now have mechanism of one type or another for driving our camera and our sound film or disc at the desired speed. In addition, it is necessary to provide a definite identification mark on both the picture and the sound negative to enable the two to be placed so that the prints from the picture and sound negatives can be readily matched. For instance, at the start and end of each take, a man may step in front of the camera and clap his hands or strike two pieces of board together. A somewhat more ingenious device is to wire up an

(Continued on Page 22)

Elmer Dyer A S C ready for a flight on a Navy "J" Ship Note how camera is chained on Below the great hangar at Lakehurst in which is kept the "Los Angeles"

Up in the Air with the Navy

An A. S. C. Member Gives an Interesting Account of Photographing Columbia's Big Picture, "Dirigible."

by **ELMER G. DYER, A. S. C.**

THOSE of you who have never seen New York City at night from the air have something in the way of a real treat in store for you—that is, if you some day get around to making the trip It may seem funny, but seeing New York City from the great U. S Navy Dirigible, "Los Angeles," along about three-thirty in the morning gave me the biggest kick I received while back East recently making the aerial shots on Columbia's picture, "Dirigible"

I'm not a writer, so I guess my description would be a washout if I tried it However, floating away up there, about five thousand feet above Manhattan, and looking down upon millions of lights, interspersed here and there with the tremendous electric signs in the district around Times Square is something never to be forgotten It sort of took the breath away from me It looked for all the world like a huge miniature setting, or a sort of city of make-believe Flashing signs, blinking lights, now and then the hoarse toot of a tug-boat or ferry pushing its nose through the waters of the East river floated up through the still air to lend an eeriness that was positively weird

But that seems far away from the making of the motion picture When I received word that I was to go to Lakehurst and shoot the air scenes, I guess I was one of the happiest men in Hollywood, because I had already shot a picture in the air with the Army and with the Marine Corps I had wanted one with the Navy so I would have the experience with all branches of Uncle Sam's service, and here it was. 'Dawn Patrol" introduced me to the Army, and I found them a great crowd of cooperators "Flight" brought me in contact with the Marines, and I found them equally fine 'Dirigible' took me into the Navy, and I want to say that they did themselves proud in cooperating with us Now I feel as though I am almost a Service man

At Lakehurst we had some problems to work out in order to get the shots we needed First, we had to ride in something else in order to shoot many scenes of the Los Angeles, which was used in the picture You know, you can't just walk out into the air and shoot So, the Navy authorities gave us one of the baby dirigibles which they call "J" ships They are just miniature editions of the great Los Angeles And you can handle them like nobody's business

The problem was to get the Akeley camera mounted where we could do the most good, and still be sure the camera—to say nothing of the cameraman—would not hurtle off the ship and do a drop through space So, on the motor gondola of the "J" ship we placed a plank two feet wide and twelve feet long This was placed across the gondola and chained fast It was in front of the gondolas and furnished a nice spot from which to shoot On this plank we chained down the Akeley

This fixed the camera, but just where the cameraman was to stand was something else There was no place, so I just straddled the gondola as though it were a horse I was fastened with straps and ropes right behind my Akeley, and that was that You see, much care had to be taken, for in bouncing around through bumpy air there was a chance that either camera or cameraman might bounce off Anyway, it was a lot like riding a horse and worked out great There wasn't much to worry about for I had a parachute, but no cameraman wants to lose either his camera or the film, especially after he has made some important shots This seat was not so bad for short rides, but one day we took off and didn't come down for seven hours, and I tell you that riding that darned gondola grew kind of tiresome along about the last hour

We had a lot of fun one day on that ship A bunch of men had to jump over the side The camera was fastened so we could shoot them as they were pulling the cords which opened their chutes Really one of the real thrilling scenes in the picture Well, the men selected turned out to be men who had never jumped before—green gobs who were just learning They all dropped off but one fellow who just couldn t seem to get overboard He was absolutely "frozen" fast as the fliers say Never did get over That happens frequently with men making their first jump Just an attack of nerves that can't be helped

Mr Dyer in the J" Ship ready to take off

It was in the big Los Angeles, however, that I received my real thrills Anyone looking for something unusual can find it in such a ship if he has to move his camera from one gondola to another For instance, we had to move my Akeley from the gondola in which it was originally set to a place in a motor gondola. It sounds simple But—to get there we had to carry the camera by way of a flimsy ladder from the gondola to the famous "cat-walk ' This is a tricky contraption that runs down through the center of the big dirigible

I didn't measure the 'cat-walk," but it looked

(Continued on Page 20)

As the Editor Sees It

Turning the Tables

IT IS of interest to note that the stage is now beginning to turn to the motion picture field for stage players We mean players who have never trod the boards, and whose reputation and experience has been gained solely in the motion picture profession It is a healthy sign, and is as it should be, for pictures, while not so old as the spoken drama, have in a few years taken a place in the world of art that is astounding

All of which makes very timely the remarks of Roy Del Ruth in Film Daily recently anent Hollywood and those who for years have tried to poke fun at it The remarks of Mr Del Ruth follow

"Hollywood has prospered under the fire of criticism and ridicule that skeptical critics have directed at it, and is slowly but surely vindicating itself in spite of and because of these aspersions It was but a comparatively short time ago that most of the 'high-brow' commentators who deigned to notice filmland at all, did so only in a spirit of contemptuous sarcasm, while there were few who tried to discern the virtues that were here and there to be observed if one looked for them

"Things have changed considerably since those days but I have no doubt Hollywood profited by them Some of the rude things said about us only spurred us on to greater efforts to vindicate the industry, and now that it has been vindicated, I guess we can thank our former critics It is our enemies that teach us our faults, not our friends, and faults we had, there is no denying It is our turn to laugh, however, at the dire predictions of many self-satisfied detractors who regarded the entire motion picture business as bunkum, childish and unworthy of the attention of intelligent minds It is noteworthy, however, that since many of the faults have disappeared and motion pictures have taken a high place in the affairs of men, few of these former detractors seem willing to come forward with acknowledgments We no longer furnish them with material for adverse comments, but they abstain from volunteering anything of a favorable nature"

Football Movies

THE football season has rolled around again, and the opportunity is ripe for amateurs to use that new telephoto lens at the big, or the little games Intelligent use of the 16 mm camera with a telephoto lens will produce exciting pictures for fireside use later on There is nothing quite so thrilling as seeing your own team battling on the one yard line, and then suddenly comes a "break" in the game and what looks like defeat turns into victory Real drama there, if the amateur is looking for it

An Opportunity

ELSEWHERE in this issue appears an announcement from the Boothe Company in which the opportunity is offered to those of an inventive or mechanical turn of mind to win a substantial prize for the making of a useful device for use in the picture industry—providing the device is of aluminum or one of its alloys This is an opportunity that no one should pass up Perhaps you have had an idea in the back of your head for some time Now is the chance to bring it out and perhaps turn it into the first prize

Introducing Mr. Huse

WITH this issue we introduce a new Technical Editor for the American Cinematographer He is Mr Emery Huse, of the Eastman Kodak Company's Hollywood Laboratory

For several years the position of Technical Editor has been held by Mr J A Dubray, A S C Mr Dubray is head of the Technical Service Department of the Bell & Howell Company, Chicago, and due to press of work he was forced to give up the office In Mr Huse the Cinematographer is fortunate in securing a man who commands the respect of every one in the industry as both a scientist and a gentleman Mr Huse is an associate member of the American Society of Cinematographers In a later issue there will be more about him

Cinematographic Annual

THE letters are beginning to come in from those who have bought copies of the Cinematographic Annual which has been published by the American Society of Cinematographers, publishers of this magazine They are wonderful letters—letters from men who one would think would be too busy to pause in their work to write us in praise of this book It is really inspiring to an over-worked editor, and we take this opportunity of thanking these gentlemen

Surely, if the book causes busy men to stop and write us about it, it must be a book that every reader of this magazine should have If you have not ordered your copy, why not do it today The edition is limited Perhaps if you procrastinate you will find it is too late and you will have to wait until next year for a copy of the next one

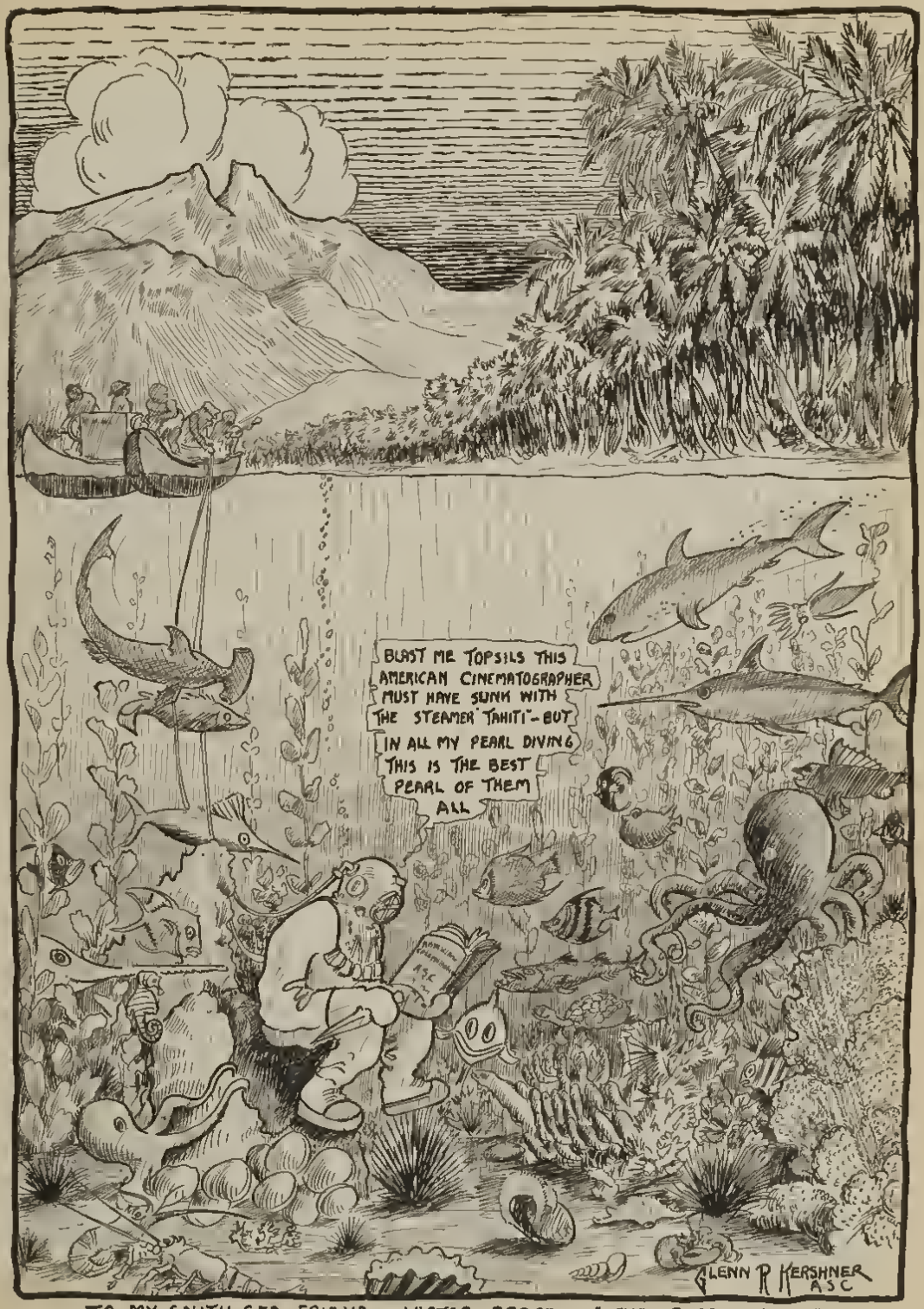
Prosperity!

HATS off to Jack Alicoate and Film Daily for that publication's stand in regard to prosperity The daily "box" which appears under the heading, "Green Lights Ahead," is encouraging and should do a lot more to promote prosperity within the industry than constant yelping about hard times

This writer has always found in his own experience that the fellow who cries about poor business, hard times and the like, usually has just what he is crying about The fellow who refuses to believe times are hard, and who jumps in and rolls up his sleeves and works twice as hard hasn't time to think about bad times—and by his extra efforts banishes them as far as he is concerned There is no room in the business for those who sit and wait for someone else to bring on the business What is needed are hustlers who refuse to quit, who go out and create new business

We, of this magazine, do not go in for preaching very often—and when we do we try to practise what we preach During the past few months when business was supposed to have been so terrible we have put our shoulders to the wheel, have refused to believe it—with the result that this month, in the course of ordinary development, our magazine has increased to fifty-six pages This is almost double its size of a year and a half ago All of which makes us more positive of our belief that business is more or less what you want to make it

H. H


BLAST ME TOPSILS THIS AMERICAN CINEMATOGRAPHER MUST HAVE SUNK WITH THE STEAMER "TAHITI" - BUT IN ALL MY PEARL DIVING THIS IS THE BEST PEARL OF THEM ALL
GLENN R KERSHNER ASC

TO MY SOUTH SEA FRIEND VICTOR BERGE. "THE PEARL DIVER"

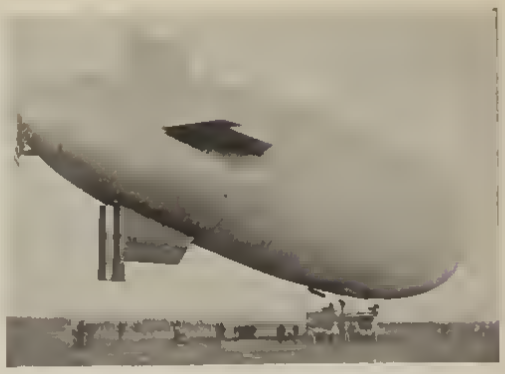
Up In the Air With the Navy

(Continued from Page 17)

about eight inches wide, and hung there in the center of the big ship, looking more like a tight rope than a walk We had to put on rubber soled shoes so we would be sure we didn't slip or scrape a nail against the metal that might cause a spark The ship was about four thousand feet in the air and going at ninety miles an hour when we started the shift of the camera Well, when you step onto that narrow cat-walk you feel as though you were about to jump off the Brooklyn bridge There is a terrific rush of wind in your face If the ship hits some bumpy air or suddenly swerves, you have a tiny rope to take hold of Underneath you, all that separates you from the empty air is a thin piece of linen which you know would never be of any service if you suddenly dropped off the plank The gobs go down that walk as though it were a Hollywood Boulevard Guess they are accustomed to it They shoulder equipment and go along like nobody's business You have to admire them But, I admit that I didn't care so much about the idea Anyway, we shuffled down that "cat-walk" and made our way to the ladder leading to the motor gondola There was a nasty spot for a moment! The gondola sloped out at the top and you hung partly under it on the ladder and right down underneath was air, clouds and—the ground, four thousand feet below But the shift was made without a slip, and no one seemed to think anything of it So I guess no one worried

In the motor gondola of the Los Angeles the noise was terrible, and the heat was very bad I was surprised at the unusual activity on the part of the men working there They worked so intensely that they had to change shifts about every hour No man had even a moment to spare in that gondola Each man was on the jump continually, watching this and that and performing tasks that to the ordinary laymen were mysteries far beyond solution As soon as a relief crew came over the side, the other crew would dash to the "cat-walk" and then to their bunks

It seems as though the Navy has everything in that big bag of the dirigible Gas tanks, water tanks, quarters for the men



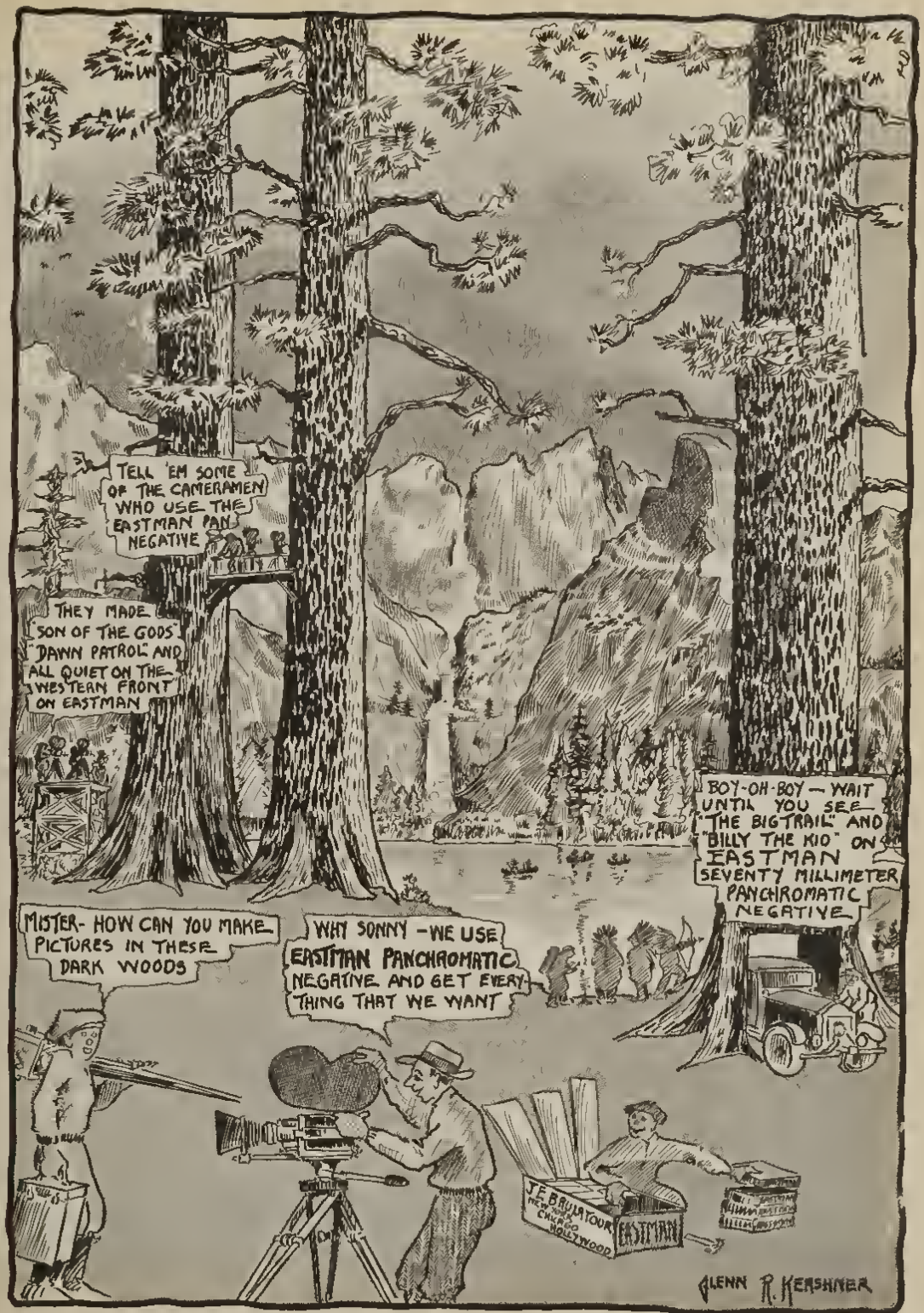
The "J" Ship used by Mr Dyer in shooting "Dirigible"

The men would flop onto their bunks and drop to sleep as though they were swinging in a hammock on some big battleship safely tied up in a land-locked harbor Remarkable fellows, those gobs who man the Los Angeles And proud of their ship of the air and their work All the pride of the Navy at sea is found in the Navy in the air That cockiness of sailors is not lacking They are a great bunch of fellows

The night we went over New York City was a great treat for me The ship took off at Lakehurst in the dark and we sailed away for the big city and beyond as though being in the air was nothing at all I just can't get away from that New York at night Even the crew were impressed In the distance was Coney Island, looking like a fairyland with its twinkling lights and revolving ferris wheels And the buildings of New York seemed different than I had ever seen before They were practically all lighted up—it being the time of the night when the scrubwomen were doing their tasks—and the result

(Continued on Page 28)

Another view of Mr Dyer on a "J" Ship, showing the precarious perch from which he worked


TELL 'EM SOME OF THE CAMERAMEN WHO USE THE EASTMAN PAN NEGATIVE
THEY MADE "SON OF THE GODS" "DAWN PATROL" AND ALL QUIET ON THE WESTERN FRONT ON EASTMAN
BOY-OH-BOY — WAIT UNTIL YOU SEE "THE BIGTRAIL" AND "BILLY THE KID" ON EASTMAN SEVENTY MILLIMETER PANCHROMATIC NEGATIVE
MISTER- HOW CAN YOU MAKE PICTURES IN THESE DARK WOODS
WHY SONNY -WE USE EASTMAN PANCHROMATIC NEGATIVE AND GET EVERY-THING THAT WE WANT
J.E. BRULATOUR NEW YORK CHICAGO HOLLYWOOD
EASTMAN
GLENN R. KERSHNER

Sound Stage Equipment

(Continued from Page 15)

electric lamp and a buzzer, place the lamp before the camera when desired and touch the key that sets off both lamp and buzzer

Acoustical Control

An entirely different set of accessories may be grouped together and classified as "Acoustical Control" First in this list comes the acoustic set, i e, motion picture sets constructed of such materials that the recording conditions will be good in as much of the space within the set as possible If a sound is generated between two solid parallel walls, a set of echoes is set up, resulting in what is known as a flutter echo If the distance between the walls be exactly right, actual standing waves will be produced in the room Most interiors have the property of preferential reflection, that is, of reflecting certain frequencies more than others One way out of this difficulty has been to construct sets either of materials having uniform absorption characteristics or materials which are essentially porous Use of cloth walls in certain studios is an example of what can be done along this line Other studios have met the reflection problem by building sets within non-parallel walls In this case very good results can be obtained with the old-fashioned set materials, but at the expense of artistic freedom

There are frequent cases, even in the best of sets, where, due either to considerable action or peculiar camera set ups, it is difficult to secure a good quality of sound pickup The usual effect is an excessive reverberation, sometimes known as "boominess" and sometimes known as "liveness," depending upon the type of set To remedy this, several devices have been used If there is room, large flat sound-absorbing surfaces can be so grouped that they will kill most of the undesirable reverberation In other cases, a small piece of sound-absorbing material, placed between the mike and the wall from which the reverberation is coming, will produce the same result Another, and not as common, trouble comes from resonance within the cavities of incandescent lights Some of these lamps are large enough so that the resonant frequency lies in a very undesirable part of the sound spectrum In cases of this sort screen wire is placed in front of the lamp to break up reflections. In certain instances several reverberations are encountered, due usually to the construction of the set which has been built of some hard material for a desired photographic effect. In these cases, particularly when dialogue alone is being recorded, it is not at all uncommon to use an electrical filter which removes the very low frequencies corresponding to the rumble or reverberation Removal of these, which are principally below the frequencies encountered in speech, does not harm the speech if used with consideration, and very often is the means of enabling sound to be recorded in places which could not be used otherwise

Still another type of acoustic device is one which is used principally on location A slight breeze, when blowing directly into a mike, has a tendency to push the diaphragm, which is very thin and sensitive, up against the back plate of the mike, producing a roaring or popping effect By enclosing the transmitter in a sort of large cage, which is then covered with one or two layers of silk the direct pressure of the wind is kept away from the diaphragm, while the pressure variations caused by speech or music go through unhindered This device, known as a wind-gag, makes it possible to record sound quite satisfactorily, even in a severe wind

Microphone Booms

The general necessity for placing microphones overhead when recording, was first solved by suspending them by rope and tackle from framework above the stage This practice, however, had the disadvantage that the mike once placed thus, was difficult to move, and thus limited the action, affected the quality of the recorded sound, and slowed up production greatly Consequently, there were developed various types of microphone booms to swing the transmitter almost instantly to any desired position Such a device consists of a pedestal, on castors, supporting a rotatable boom of adjustable length The whole mechanism may be rolled to any convenient point, after which the mike, suspended from the end of the boom, may be hung at any height between five and twenty feet above the floor, may be swung laterally, or extended ten feet beyond the initial position

Since the boom is counter-weighted, all these operations can be performed with ease and speed, and the microphone can follow the action around the stage It should be noted that the mike suspensions and amplifiers had to be re-designed for use with the boom, lest the rapid motion of the mechanism during a take cause microphonic noises

Portable Mixing Booths

The original recording equipment as it came from the laboratories of the east were designed for permanent installation and accordingly the first few outfits which were set up were installed that way It was soon decided, however, that with shots of any complication whatsoever, it would be highly advantageous to have the sound man close at hand with at least a portion of his equipment so that he could watch the action and take cues from the director. To achieve this, portable mixing booths were constructed, containing controls for six microphones in the usual installation, an indicator to show how much sound energy was being sent back to the recording room, and a loud speaker with which the operator could judge the quality of the sound The scope of these booths has now been extended until, in a recent production at one of the studios, the booth was placed on a large overhead crane so that it followed the camera along in all the complicated travel shots which were made In this manner the sound man commanded a clear view of the entire action and operated his equipment much more intelligently than would have been the case had he been forced to remain at a given point

Signaling

The addition of sound equipment to the other technical equipment in use on the motion picture stage, necessitated an intricate, but at the same time thorough, method of intercommunication The actual recording equipment to which the wires from the microphone lead is quite generally in another building The mixing booth, even if it is on the stage, is sound proof and there may be a number of cameras in different positions on the set The first assistant director is generally charged with coordinating technical activity on the set, leaving the director free to concentrate on the dramatic action of the particular scene The assistant director must be kept in constant touch with both sound and camera As soon as either one of these is ready to make a take, the news is flashed to him In certain instances this flashing is done by means of an intercommunicating telephone In other instances an automatic block system has been developed so that the interlocking of the recording equipment automatically lights a light at the side of the assistant director

In addition to the above, the signal that the director and cast are ready must be sent along the lines to the recording room This also is done either by telephone or by a system of lights, and finally when the equipment is up to speed and operating, that information in turn must be flashed out to the set so that action may then begin.

Another type of signal is required to enable the director to communicate with the actors Entrances which are made from points hidden from the director are usually cued by means of a light operated from the director's chair. Offstage sound effects are usually cued in the same way, as are camera fade-ins and

fade-outs In short, whereas in the silent picture directions could be given during takes by either director or cameraman, these verbal directions must now be supplanted by silent cues On long and complicated scenes a very elaborate set of signals is often necessary and considerable time is consumed in getting them to operate satisfactorily

"Shooting" A Picture

So far this paper has described a number of devices without giving adequate explanation as to how they fit into the general problem of photographing and recording motion pictures. Now let us go into a sound stage with a typical motion picture feature in production and observe the actual "shooting" Before doing so, however, it would be well to fortify ourselves with an understanding of some of the fundamental operations involved.

The average feature-length photoplay which we see in a theatre is usually around 7000 feet in length when completed. To produce this footage, it is necessary to shoot 100,000 to 150,000 feet of picture negative. A current production which now has a length of 10,000 feet required the shooting of over 2,500,000 feet of picture negative alone in order to secure good "takes" of the very intricate scenes involved The unused footage on the cutting-room floor compares with the superfluous manuscript of the writer except that film costs more than waste-paper and much more than just one man's time.

The 7,000 feet to the finished feature is made up of many short scenes which have been taken with the view to being spliced together There are as many as 200 to 500 scenes in the average film These scenes are very often not taken in the same order in which they are to be used in the final production It is very common to shoot the end of the picture first, for example, or to shoot all the scenes dealing with a particular character or setting at one time This is done in the interest of economy

The effort on the part of the many individuals collaborating in making the production is to get what we term the "perfect take," and here is the procedure.

The director examines the script and tells the cameraman and the sound man where and what kind of action is going to take place These two men in turn set up their equipment to photograph and to record the action in the best possible manner

A complete rehearsal is held and all the adjustments checked Finally, when the equipment has all been checked and is satisfactory, the director is notified that all is ready for a take The actors take their positions, the order "Camera" or "Turn 'em Over" is given, and with that the recording and photographing equipment is started When it is running smoothly, which means but a few feet of film, the signal for the start of the take is given The actors then go through their lines and at the end of the take a synchronizing mark is placed on the film, together with an announcement as to the number of the take which is not only recorded but is also photographed on the picture negative If everything has gone exactly as in rehearsal, this scene is done and "in the bag," and another few minutes of picture has been added toward the total

Practical Difficulties

In actual practice, however, there are any number of things which can happen to break up this chain of events

Beginning at the beginning, we have as the first requisite the director explaining to the cameraman and the sound man what he is going to do It may sound peculiar to those not intimately acquainted with motion picture production to say that the director does not always know what he wants even on the day when he is supposed to shoot, but such is often the case Motion pictures being fundamentally a creative art, new ideas and better methods of telling the story present themselves very frequently. The director does not dare to ignore these new ideas and to follow along the lines of his original script, because in many cases the very spontaneity of the thought is the one quality which makes the difference between success and failure

It has been said that a stage play is not written, but rewritten, and the same expression holds true even more literally in the case of motion pictures If it were not for the fact that a definite limit is set on the amount of money that may be spent on a photoplay and a time limit also set as a release date, a director might go on making and remaking his picture for months, as he would always keep finding newer ideas to improve it A very striking example of a picture which was practically shot this way is now current in one of the special photoplays recently released. In this case there was no limit as to time or budget The result is that the picture contains some of the most difficult scenes which were ever photographed and the excellence of these scenes is far above what has been done heretofore Some particularly difficult scenes were re-shot as many as forty times before they were satisfactory, and each time some new idea was incorporated into the story

This method of production, which is unique in motion picture history, is really the method which every director would use if he were given an unlimited amount of time and money, and it is the only way to keep motion pictures on a creative plane The same infinite slowness and painstaking re-editing is noted in every creative art, in writing, in painting, and in all others In many of these arts, the re-editing process can be allowed to go on as long as it is desired, because the work is usually that of an individual and his is the only time lost. In the case of the motion picture with tremendous expenses going on hourly, only a limited amount of changing can be allowed. The producing organization, however, strives to keep its facilities mobile so as to allow the director as much leeway as possible

The Conference

We see, then, that the first requirement of this formula for making the perfect take is very difficult to obtain Let us assume, however, that the director has his action quite defintely in mind and that he imparts the necessary information to the recording and photographing units They immediately proceed to line up their equipment so as to get all there is in the scene, each without regard to the other. When their work is done, they turn to one another and discuss the situation and immediately they face several impossibilities The first and most important is usually this The sound man, in an endeavor—and a very righteous one at that—to get the best possible quality of sound, has placed his microphone to suit the acoustics of the set and the action, but unfortunately he has reckoned without the cameraman and the microphone is in full view of the camera Or, looking at it another way, the cameraman has chosen a pictorial angle that will give him the best photographic composition, and this angle chances to include the microphone as well as the characters and the background

We have reached a complete standstill Nothing can be done until either one or the other of these two men gives way and takes a second choice in the matter of sound or photography In either case, it is very difficult In photography there is usually very definitely one correct angle from which to shoot the scene to get the true feeling out of it Similarly in sound, a second best position for microphone placing is also usually much inferior to the one which was originally chosen The playing of the action, the acoustics of the set, and the types of voices, all enter into this consideration Very frequently the director must be called in and asked if it will be possible for him to take a second choice in the matter of action so as to give either photography or sound a little better chance to get something satisfactory Usually, then, before a complete rehearsal can be had, all three have been forced to make

(Continued on Page 32)

Fred W. Gage, A. S. C.

THE American Society of Cinematographers recently created a new Associate Membership in its organization, and some of the most outstanding men in the motion picture and its allied industries have been made Associate Members Starting with this issue of the Cinematographer, this magazine each month will publish a portrait and brief biography of one of these new Associate Members The first is Fred William Gage, Superintendent of the Laboratory Department of Warner Bros

Mr Gage was born in Marion, Indiana, January 14, 1898 He was educated in Los Angeles in the grammar and high schools He entered motion pictures in December, 1916, at Universal Left in the spring of 1918 to enter aviation with his father, Jay Gage, who was one of the early pioneers in aviation Returned to motion pictures in 1920, going to work for Fox After seven or eight months there he left to return to Universal Was with Universal for about six or seven months, going from Universal to Metro With Metro pictures until May, 1924, at which time he accepted a position with Warner Brothers where he has remained ever since

During these years, Mr Gage worked at every position afforded in the Laboratory, beginning with the Drying Room and continuing to that of Superintendent

M-R Ships Abroad

MOLE-RICHARDSON, INC, studio lighting engineers, recently completed an order received through the Tanar Corporation, for several units of lighting equipment to be sent to the Imperial Films, Ltd, Bombay, India Included in the order are rifles, sunspots, overhead strips, double side lamps, 2000 watt spots

According to Mole-Richardson executives the use of incandescent lighting equipment by foreign companies is rapidly increasing This organization reports the shipment of several orders to foreign companies in recent months

This and That

WORD comes from Paramount's Eastern studios at Long Island to the effect that, beginning with October, work at that studio would be concentrated on feature productions Shorts are to be dropped there until some time in the Spring Ernst Lubitsch is slated to do a feature there shortly

THE following have been nominated for positions on the board of directors and executive committee of the Academy of Motion Picture Arts and Sciences, technicians branch; for board of directors, three years, Karl Struss A S C, for executive committee, one year, Hal Mohr, A S C, Nugent H Slaughter, I J Wilkinson J M Nicholaus, Ben Carre

THE big companies are seeing the light as regards names in short subjects, and from now on the big names so long familiar in the feature productions will be found scattered through the shorts Should draw the patrons in.

UNIVERSAL is planning at least one wide film production for the coming year, according to reliable reports from that source Nothing definite yet on color from Uncle Carl

PATHE Coloratura process is said to be used by Pathe in some of its short subjects No mention has been made as to whether or not this has anything to do with the coloratura lighting system worked out by General Electric some time ago Maybe only similarity of name.

DR LEE DE FOREST, now in Hollywood, has organized the De Forest Radio Manufacturing Company There is much speculation as to his picture activity ever since he arrived here recently But this town of Hollywood is great for rumors

Bowes to Address S. M. P. E.

WHEN the Fall meeting of the Society of Motion Picture Engineers convenes Monday morning, October 20, at the Hotel Pennsylvania, New York, Major Edward Bowes, managing director of the Capitol theatre, will deliver the address of welcome, according to announcement of the program committee

Meeting headquarters will be in the Salle Moderne on the roof garden of the hotel Ladies' headquarters will be located on the roof garden with Mrs E I Sponable as hostess

Golf privileges have been arranged at several country clubs

Election of officers will be held on Wednesday afternoon and the semi-annual banquet Wednesday evening

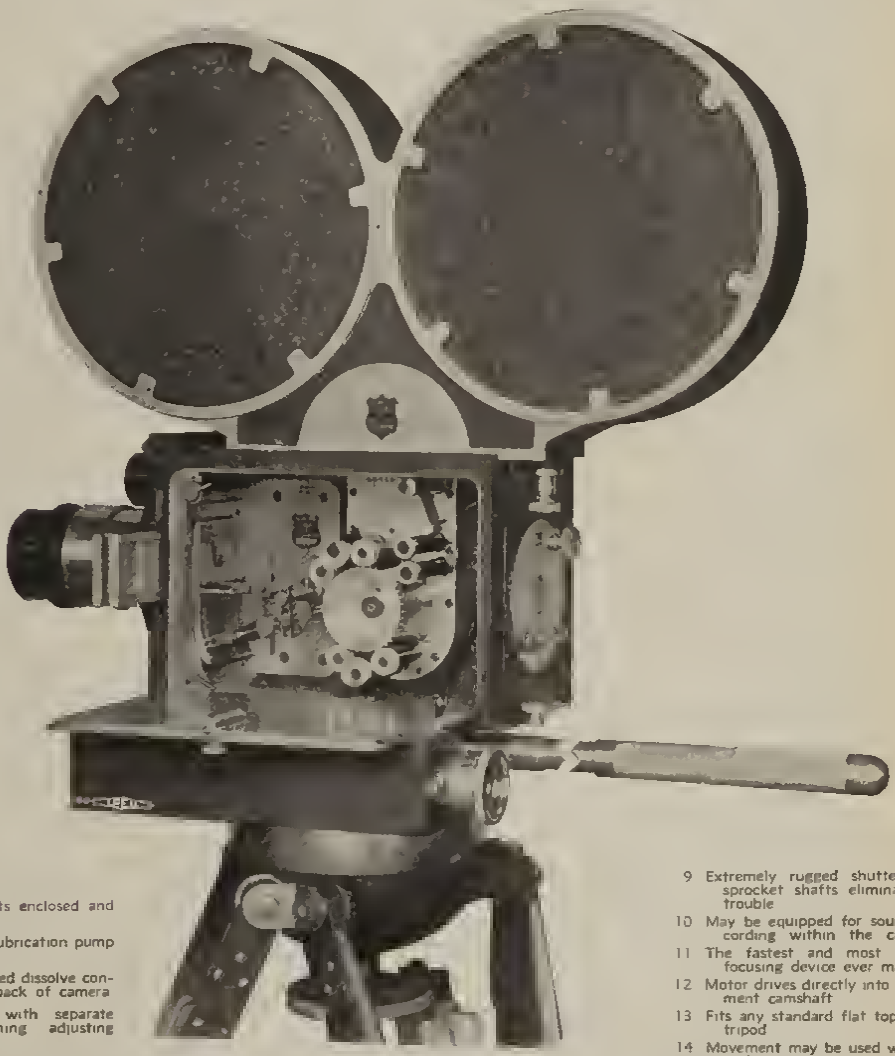
The meeting closes Thursday, October 23

Wide Film Meeting

MEMBERS of the various technical branches of the motion picture industry gathered at the Fox Hills Studio of the William Fox Company on the evening of September 17 for the first of what will be a series of discussions of the wide film situation and its problems Colonel Nugent H Slaughter was chairman of the meeting, which was held under the auspices of the technical bureau of the Academy of Motion Picture Arts and Sciences Among the speakers were Karl Struss, A S C, J O Taylor, Max Ree and Douglas Shearer, A S C In the open discussion following the formal speeches Sergei Eisenstein, Dr. L M Dieterich and J A Dubray, A S C, expressed some excellent opinions Other meetings are slated for the future on this subject

FEARLESS SILENT SUPER-FILM CAMERAS

The World's Finest Professional Camera



1 All working parts enclosed and run in oil

2 Full force feed lubrication pump fed

3 Automatic 3 speed dissolve controlled from back of camera

4 Hand dissolve with separate shutter opening adjusting knob.

5 Two Veeder footage counters with separate resets

6 Automatic built-in belt tension device eliminates all buckles

7 Double opening shutter for silence Also used for color work

8 Silent precision ball bearings used for all rotating parts except movement

9 Extremely rugged shutter and sprocket shafts eliminate trouble

10 May be equipped for sound recording within the camera

11 The fastest and most simple focusing device ever made

12 Motor drives directly into movement camshaft

13 Fits any standard flat top tripod

14 Movement may be used with or without pilot pins for registration

15 Built for using two films for color or trick work

16 May be converted into a projection head for optical printing in a few minutes' time

17 So quiet that no booth or sound covering is required

18 The easiest camera to load in the world

FEARLESS CAMERA Co.

7160 Santa Monica Boulevard, Hollywood, California

Telephone GRanite 7111 Cable Address FEARCAMCO

Boothe Company Aluminum Contest

An Opportunity to Turn "That Idea" into Cash

ONE of the most unusual contests that has ever been held within the ranks of the motion picture industry has just been announced by the Boothe Company, dealers in aluminum, of 1400 South Alameda Street, Los Angeles. It is a contest that should arouse the interest of every technical man in the picture business, and should be productive of many new ideas in the line of better technical equipment.

The contest, in brief, is simply this. Three prizes will be given by the Boothe Company for the three best made and most useful devices of some technical device for use in the motion picture industry, and which will be made of aluminum or an aluminum alloy. The three prizes will be $100.00 for first prize; $60.00 for second prize, $40.00 for third prize. The names of the judges will be announced next month and their decision will be final. However, in case of a tie for any of the prizes, each contestant so tied will be given similar awards.

This contest is open to all persons connected in any way with the motion picture industry, and to those outside the industry who are interested in the technical side of the profession. Thus, even an amateur who enjoys himself with his 16 mm. camera will be eligible to take part. But none connected in any way with the Boothe Company or with any aluminum concern will be eligible.

Few people, either in the industry or out, realize what a tremendous part aluminum plays today in the technical side of the art of picture making. Only one hundred and five years ago was aluminum first discovered. Chemists had long believed that there was a new metal in clay. Then, in 1825, Hans C. Oerstadt, the Danish scientist, first isolated this metal which has been called aluminum. Several decades later aluminum was being sold at the prohibitive price of $90.00 a pound. The metal was a real curiosity. In 1875 the price had been brought down to $16.00 per pound, which was still a high rate for commercial use. But in 1886 Charles M. Hall discovered a process of obtaining aluminum by means of electricity and the price, as a result, dropped to only twenty-five cents per pound. The work of this man placed him high in the ranks of those scientists who have helped in the advancement of civilization. It, for example, resulted in Lindbergh's "Spirit of St. Louis" having a propellor made of an aluminum alloy that gave the necessary strength and lightness to carry his plane across the Atlantic and land him safely in France.

Hardly a home in the United States can be found in which the duties of a housewife are not lightened by aluminum. One can scarcely mention any industry in which aluminum does not play an important part. And so with the motion picture industry. Tripods, camera mounts, cameras, lamps, lens mounts—the list is so great there is not space to enumerate.

And so, the Boothe Company, wishing to find still more uses for aluminum, or its alloys, is to conduct this contest. No doubt today there are many contrivances in the picture industry which would be better if made of aluminum or an aluminum alloy. Keen-minded men of the industry who, perhaps for years, have thought of such a thing, will now have the chance to put their thought to practical use and if it is a winner, receive a cash prize and the resultant good which the creation of something new cannot help but bring to him.

This contest will run over a period of four months. From month to month more will appear in this magazine concerning aluminum and the contest which should prove a move that will be of real benefit to the industry.

A Laco Lamp which is an example of how Aluminum is used in the picture industry. A large part of this lamp is made of aluminum which lessens its weight.

Any information desired regarding this contest may be secured by writing either the Boothe Company at 1400 South Alameda Street, Los Angeles, or by writing to the office of the American Cinematographer at 1222 Guaranty Bldg., Hollywood.

Announcing!

THE BOOTHE COMPANY Aluminum Contest

$200 in Cash Prizes

Promptad by tha recant introduction into tha motion pictura industry of a numbar of useful and practical products mada from aluminum and aluminum alloys, davalopad by individuals affiliatad with motion pictura production, and in order to encouraga furthar promotion and induca othars to submit axamplas of tha practical usas for aluminum in all branches of tha motion pictura industry, as well as tha amateur fiald, Bootha Company, 1400 South Alamada Streat, Los Angalas, racognizad as tha largest dealars in aluminum and aluminum alloys in the wast, will award three cash prizes totaling $200.00 to tha thraa contestants, whosa submittad antrias, in tha opinion of tha judgas, are considarad most practical, and banaficial to tha motion picture industry.

Lighting aquipmant parts, projection mechina accassories, raflectors, camara tripods, film raals, camara slatas, raal boxas, blimps, camara parts, coble attachments—hundrads of banaficial and nacassary products mada from aluminum and used in motion pictura work today, ware introducad by motion picture workars.

Aluminum alloys which waigh but ona-third that of iron or steel, hava tha aqual strength of thosa matals—will not corroda whan subjactad to sevara waathar conditions—thara are numerous reesons why thay ara findrng instant favor wharavar they ara introducad in place of ordinary matals.

Mr. I. J. Bootha, prasidant of Bootha Company, as wall as a numbar of prominent men activaly angaged in motion pictura work, are confidant that this contest will bring about the introduction of a number uf novel and useful products which can be mada banaficial to motion picturas.

Get busy, now, you machanical wizards, and show tha world what you can de—espacially tha motion picture world.

RULES OF CONTEST

1. The BOOTHE COMPANY, ALUMINUM MODEL—CASH PRIZE CONTEST begins with this issue of the AMERICAN CINEMATOGRAPHER and ends at midnight of January 15th, 1931 Winners' names will be announced in the February number of this magaaine It is not necessary to be a subscriber to this periodical in order to compete

2 Cash awards of $100—$60—and $40—repmsonting first, second and third priaes will be given by BOOTHE COMPANY to the three contestants whose models, in the opinion of the Judges are considered best adapted to practical and beneficial use in the production of motion pictures. Contestants, in case of a tie, will receive like awards.

3 Anyone asseciated with motion picture work may compete—amateurs as well as professionals. This also means all motion picture studio or motion picture theatre employees or any organiaation whose products are used in motion picture work, except those in any way associated with the BOOTHE COMPAHY or any other organiaation handling aluminum or alummum alloys

4 The Judges, whose names will be announced in the Hevember issue of the AMERICAN CINEMATOCRAPHER, will be representatives of some branch of the motion picture industry. Their decision will be final

5 Two photographs, a front and side view, with a description of the completed product, must be sent to "The BOOTHE COMPANY ALUMINUM CONTEST Editor" 1222 Guaranty Building, Hollywood, on or before January 15th, 1931 Be sure that this is accompanied by your name and address No communications regarding this contest will be answered, unless accompanied by a self-addressed, stampad envelope. In no instance shall entries be sent until such request is made hy the judges Products must be made from aluminum or aluminum alloys. They may be wholly of aluminum or aluminum alloys, or may repmsent not less than seventy-five parcent of these metals by weight They may represent in their entirety a product useful to the motion picture industry, or may be a part, attachment or accessory to be used on some apparatus, machine or structure now employed.

FOR BETTER
WORKMANSHIP

SUPERIOR
ENGRAVING CO.

Telephone HE 8149
Hollywood, Calif.
1606 Cahuenga Ave.

Zinc Etchings, Copper and Zinc
Half-Tones, Color Work
Designing, Electrotypes,
Mats, etc.

Art Reeves
Cliff Thomas

Phone
HOllywood 9431

Hollywood
CAMERA Exchange

The Clearing House
for Cameramen

Mitchell and Bell & Howells FOR RENT

Cameras and Projectors and
Accessories bought and sold

Commercial Photography

Kodak Supplies Still Finishing

16 mm , 35 mm Developed and Printed

1511 N. Cahuenga Blvd.
HOLLYWOOD, CALIFORNIA
Cable Address: Hocamex

Up In the Air With the Navy

(Continued from Page 20)

was that the buildings appeared to be transparent and hollow like great honey-combs.

And then came another thrill that is never to be forgotten. The coming of morning up there above the clouds. Imagine, if you can, a vast sea of billowy, white clouds floating far beneath you. Not a bit of land in sight. A slight mistiness in the air, which is so chilly that great, sheepskin-lined coats have been put on for warmth. A cold drabness everywhere. And then—suddenly in the east appears a golden ball of fire, peeping through a cloudbank. The mist disappears. The chill slips away. The clouds beneath reflect what looks like a thousand different colors. Then a cloud apparently seems to thin out and beneath you get a glimpse of misty landscape scudding by. It is beyond description. It is glorious. It makes you forget the every-day world of sordidness and trouble about you and you are glad you are alive.

But—to get back to details again. One of the things that had me puzzled—still has—was the way in which they produce water for ballast in that dirigible. Up by the exhaust there is some sort of contraption that looks like a lot of radiator parts. There some process is carried on which condenses air and produces water. When I saw that, it cleared up a lot of wonder in my mind, for I had noticed that the crew frequently dumped great quantities of water overboard when it was necessary to spill ballast. But when they arrived back at the field they seemed to have almost as much water as when they started. That's where it came from.

And—speaking of the water ballast—a cameraman was on the ground at Lakehurst when we came in one day. He wasn't looking up. And just then came an order to spill ballast. About fifty gallons of water was dropped—it landed right on that cameraman and his camera. He was a sore and surprised individual when that landed. It sure lands, too. They open a valve which seems to drop all the water at once. No pouring process there.

Shooting pictures in, or from, a dirigible is much easier than from a plane. There is an extreme smoothness that you do not have in a plane. Then, there is not the terrific wind you have to cope with in a plane. The wind is broken and you do not have the whip and wash that the plane gives you. Going ninety miles an hour in a dirigible is like standing still as far as the whip and wash is concerned. You have a chance to make real shots. We took some marvelous shots of action in the Los Angeles with Jack Holt, and the picture should be an interesting one for those who like the air.

Before closing I want to say a word about the officers and men of the Navy who cooperated with us. They were perfectly splendid and were of real assistance. They know the meaning of the word "cooperation," and threw themselves into the task of helping in a manner that makes you wish you could stay on with them for all time.

Editor's Note: Elmer G. Dyer is one of Hollywood's most noted Akeley and Aerial cinematographers. Among the pictures in which his skill as an aerial cameraman was responsible for the air shots are "The Great Air Robbery," "The Big Hop," "The Air Circus," "Young Eagles," "The Winged Horseman," "Flight," "The Dawn Patrol," and now "Dirigible." He also was responsible for many of the most interesting and thrilling air shots in "Hell's Angels." Since coming to Hollywood Mr. Dyer has carved an enviable niche for himself in the camera field, and whenever aerial shots are thought of the name of Elmer Dyer invariably is one of the first mentioned. Not only does he do excellent work in the air but on the ground or in the studio he is equally at home with his camera. At present he is with Caddo Productions. Mr. Dyer is a member of the Board of Governors of the American Society of Cinematographers.

For Authoritative Information
Read the
Cinematographic Annual

DUNNING PROCESS.....

A Few of the Current Releases Containing Dunning Shots

"Ladies of Leisure"—Columbia
"See America Thirst"—Universal
"What a Widow"—Gloria Swanson
"Soup to Nuts"—Fox
"Her Man"—Pathe
"Romance"—M-G-M
"Half Shot at Sunrise"—RKO
"Just Imagine"—Fox
"Leathernecking"—RKO
"Up the River"—Fox
"Madame Du Barry"—U. A.
"Holiday"—Pathe
"Liliom"—Fox
"The Lottery Bride"—U. A.
"Born Reckless"—Fox
"Losing Game"—RKO
"Tonight and You"—Fox

DUNNING PROCESS «You Shoot Today--Screen Tomorrow»

932 North La Brea - GLadstone 3959
Hollywood, California

Peter Mole

Mole To S. M. P. E.

ANNOUNCEMENT is made from Mole-Richardson, Inc of the departure of Mr Peter Mole, president, for the East, where he plans to attend the annual convention of the Society of Motion Picture Engineers Mr Mole plans to visit the General Electric Research plants and laboratories at Schenectady, the Bell laboratories of the Western Electric Company in New York City, and the Development Laboratory of the R C A Photophone at Camden, N J This visit to the East also gives Mole-Richardson, Inc, opportunity to contact Eastern studios

It is the policy of the Mole-Richardson Company to send one of its members to the East semi-annually for the purpose of making an extensive survey and study of the studio lighting, sound and electrical developments such as are continually being evolved and improved by the Eastern manufacturers and Motion Picture producers

Mole-Richardson are the original designers and manufacturers of incandescent lighting equipment, commonly called "Inkies," and are well known for their development of many devices for the production of sound motion pictures

To Own an ANNUAL is to KNOW that which is KNOWN by those best qualified to KNOW.

Photographers!

"How Talkies Are Made"

The 25c book that is taking the country by storm, contains a special article by Hal Mohr, Universal Cameraman, President of the American Society of Cinematographers, called

"SHOOTING A TALKIE"

also

Articles by B P Schulberg, John Boles, Frank Borzage, Betty Compson, and a host of the industry's leading personalities

PHOTOS-NEWS-STORIES

25c Postpaid
A Limited Number at This Figure

Joe Bonica & Company
202 Warner Bros Theatre Bldg.
Hollywood, California

Enclosed find 25c (no stamps)- Rush a copy of "How Talkies Are Made"

Name

Address

Have You

Bought Your Copy of the

CINEMATOGRAPHIC ANNUAL

Published by the AMERICAN SOCIETY of CINEMATOGRAPHERS

Acclaimed by all as the most outstanding technical book ever offered the motion picture world! **675 PAGES** of technical information such as can be found in no other single volume. Every article by an outstanding authority. **48-PAGE PICTORIAL SECTION.** Every picture an art subject worthy of framing.

If You Are Interested in Any Way in . . .

CINEMATOGRAPHY, SOUND, BOTH RECORDING AND REPRODUCING, LABORATORY WORK, SET DESIGNING, ART DIRECTION, MAKE-UP, LIGHTING, STILL PHOTOGRAPHY, PROJECTION, INDUSTRIAL MOTION PICTURE MAKING, LENS MANUFACTURE OR USE, USE OF FILTERS, MANUFACTURE OF SOUND, CAMERA STUDIO OR LABORATORY EQUIPMENT . . . OR, IF YOU ARE A USER OF 16 MM. HOME MOVIE CAMERAS ' , ' , ' , ' ,

YOU CANNOT AFFORD TO BE WITHOUT THIS BOOK

On opposite page see what one of Hollywood's sound experts says about this Annual

$5.00

PER COPY

PARAMOUNT PUBLIX CORPORATION

Paramount Pictures | Publix Theatres

5451 MARATHON STREET HOLLYWOOD, CALIFORNIA

WEST COAST STUDIOS
HOLLYWOOD 2400 • CABLE ADDRESS "FAMFILM"

September 20, 1930.

Cinematagraphic Annual,
Suite 1222 Guaranty Bldg.,
Hollywood, Calif.

Gentlemen:

I received my copy of the Cinematagraphic Annual and find it to be a very valuable collection of technical data from various authorities. It is worth any man's $5.00 who is interested in the technique of motion pictures.

Very truly yours,

A W Sabart

TECHNICAL DIRECTOR OF SOUND.

AWD:LA.

WILLIAMS' SHOTS

Will give you the results you need We have the largest laboratory devoted to Composite Cinematography in Hollywood

Any background either real scenes or miniature, may be used Scenes may be corrected without retakes.

Let us handle your intricate shots, your most dangerous spectacular and hazardous scenes

Let us cooperate and plan with you, whether for a sequence or one scene

Call Frank Williams for an Appointment

Composite Laboratories
8111 Santa Monica Blvd.
Tel. OXford 1611

WILLIAMS' SHOTS

● A New Color Film System ●
Extraordinary simplicity in take and projection,
Natural color pictures in a new purely mechanical way Patent rights to sell
Apply to
W. B. BREDSCHNEIDER,
Poland, Warsaw, Leszno 113-3

Scheibe's SINCE 1916 "Movie Effect" FILTERS,
produce Moonlight and Night Effects in Daytime, Fog Scenes, Billboard Prints and many other effects, just like they make 'em in Hollywood.
MY FILTERS ARE USED BY ALL HOLLYWOOD STUDIOS
Ask your dealer or write to
GEORGE H. SCHEIBE
PHOTO-FILTER SPECIALIST
1927-W-7[illegible] ST. LOS ANGELES, CAL.

Roy Davidge Film Laboratories
Negative Developing and Daily Print exclusively
6701 SANTA MONICA BLVD.
GRanite 3108

Sound Stage Equipment

(Continued from Page 23)

a compromise and select second choices Neither director, camera nor sound man can get the scene exactly as he desires Once this compromise is made, a complete rehearsal for both sound and photography is held This is the usual time when new ideas pop into the director's mind When he actually sees his action on the set, little changes come to him which he has previously been unable to visualize and very frequently they add a thought to the picture

Very frequently, also, these changes are drastic enough to affect the entire lineup, so that with the new business, as it is called, it is necessary to go over all the preceding ground again This has been known to happen three or four times in a single take and one should always keep in mind that this takes time—and time in motion pictures means money The average motion picture production costs in the neighborhood of $3,000 an hour

Making the Take

After several rehearsals, the director has obtained action which he considers satisfactory, while the cameraman and sound man have agreed on the placement of their equipment. Each of these has made sacrifices for the improvement of the picture as a whole At this point actual shooting begins It is not to be supposed, however, that just because a rehearsal was satisfactory that the take will be so There are many difficulties entering into the take which were not apparent earlier. The principal one of these is the fact that it is very difficult to get the feeling into the lines when rehearsing Not until the actor is actually playing the scene does he give his true interpretation of his lines From the pictorial angle, very often his action is exaggerated From a sound standpoint he is inclined to talk much more loudly and excitedly than was the case during the rehearsal For one or more reasons, then, it is very generally necessary to make several takes before a satisfactory one is obtained

Another source of trouble is foreign noises A microphone having but one ear so to speak, and no power to discriminate, listens very much more attentively to off-stage sounds than a human being does Even the slightest foreign noises become very apparent in the record the microphone produces Takes have been spoiled by watchmen slamming doors thoughtlessly; by squeaky shoes walking around the stage during the take, by someone's crackling the pages of a newspaper

In the early days of sound, the noise of the camera motor and the hum of the arc lights were also serious problems These, however, have not been solved except for occasional extreme cases

For the first year or so, another very important source of trouble was the director himself In silent days he had been used to cueing his actors during a scene by calling out to them necessary directions to guide them in their action. In the excitement which invariably accompanies actual shooting, the director would forget that he was making a sound picture and would shout directions to his cast, thereby breaking into the middle of his take and ruining it It was only a question of weeks, however, before each director had had that happen to him several times after which that particular trouble was automatically solved

Talkies for Spain

THE reign of the sound film has decidedly commenced in Spain Distributors are scarcely releasing any silent films now in the first and second run houses, and the subsequent run exhibitors appear anxious to have their houses equipped with sound apparatus The problem is, of course, where to get a sufficient number of Spanish "talkies," which, obviously, would have the greatest if not the only chance of success No French or English versions can profitably be shown to the Spanish public Occasional dialogue sequences in a foreign tongue have considerable appeal, but no 100 per cent talkie in a language other than Spanish has a remote chance in Spain

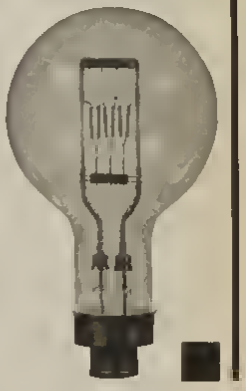
. . CONSTANT PROGRESS

TODAY'S achievements are passible only because there was canstant progress yesterday. Tomorrow's accamplishments, likewise, depend on today's cansistent advances. That is why yau can depend upon General Electric MAZDA lamps to continue in their position af leadership. They are the product af 50 years' steady pragress . . . af the unparalleled MAZDA research service . . . af General Electric Campany.

Ideals af service and the responsibilities of leadership have praduced the G. E. MAZDA photagraphic lamp. Finer materials, better canstructian and impraved design will canstantly make them finer tools in the hands af the cinematographer.

General Electric MAZDA phatagraphic lamps are praduced in accordance with a program of canstant pragress.

The 10 kw. photographic lamp is a specific exomple of the improvements mode in lomp construction in a single yeor More rugged bulbs, stronger supports ond higher efficiency provide for constontlyimproved performance.



Join us in the General Electric program, broadcast each Soturdoy evening over a notion-wide N. B. C network

GENERAL ELECTRIC

MAZDA LAMPS

Var god omtala den Cinematographer in skrivning till annonsers

by WILLIAM STULL, A. S. C.

THE BEGINNER in almost every art usually finds that, like the proverbial individual who couldn't see the forest for the trees, he cannot see the art for the mechanics he is learning. Now, mechanical perfection is the foundation of every art—but only the foundation. The art itself is the expression of the Artist's emotion through the medium of the mechanical process with which he works.

"That is all very well," the user of the average amateur movie camera will say, "but what has Art to do with my personal record-films? I don't want to make the kind of pictures that Eisenstein or J. S. Watson, Jr. do, I merely want to make some good record-pictures of my family, of my friends, and of our good times."

Artistry and the Amateur

True enough. But don't you want these films to be the best possible record of your good times? Of course you do. And the best possible film of any subject is the one which combines mechanical perfection with some degree of artistic treatment. Therefore, it is to your advantage to know how to use your mechanical knowledge of the operation of a cine camera in an artistic manner.

For the cine-amateur who has somewhat mastered the mechanics of cinematography, the first step toward better pictures is the realization that cinematography is not only a mechanical process, but an art. The next step is the application of these mechanical processes to artistic ends.

Now art is primarily the attempt of one individual to convey some definite thought or emotion to others. Therefore, the first thing is to decide just what emotion you want to convey in your films. Then you can easily adapt your mechanical processes to the task of expressing that emotion.

Of course, the average family record-film is not as obviously a vehicle for emotion as is the average photoplay, but whatever emotion there is should, none the less, be so photographed as to 'get over' to the audience with as little loss as possible.

Appealing to the Eye

The most obvious channel for the expression of emotion is the tone in which the picture is photographed. If the visual quality of the scenes are keyed to match the action, you can subtly prepare the minds of the audience to receive that action, just as the overture of an opera, for instance, paves the way for what is to follow on the stage. No one could expect tragedy to follow the optimistic phrases of a Gilbert and Sullivan overture, nor could one expect comedy after the sombre notes of the "Pagliacci" prologue. Exactly the same effects can be had in cinematography. Light, cheerful action can be photographed so as to appear visually light and cheerful upon the screen, while more sombre action can be rendered in deeper tones. This is largely a matter of exposure, of lighting, of the use of proper filters, and the selection of appropriate backgrounds. To the man who has learned the mechanics of his art, it is merely a matter of knowing when to deviate from the rules, and in which direction, for art is just that: a knowledge of the mechanical rules, and an instinct for effectively deviating from them.

To cite a very simple example: suppose, while on a picnic, we wish to make a scene showing two members of the party, and want, with the photography as well as the action, to get over the idea that they are very happy. We can choose our camera position so that the scene is composed more of high-lights than of shadows, and we can adjust our exposure so that such shadows as there are are well illuminated. If, on the other hand, we wished the scene to be indicative of more sombre emotion, we can change our camera position—perhaps only a few feet—so that the shadows are larger, and more well-defined, and reduce our exposure so that the shadows are, though not mere black patches, distinctly heavy.

What Shall We Expose For?

One of the earliest rules of photography is to expose for the shadows, and let the high-lights take care of themselves. In the above instance, we are abiding by that rule, but none the less, altering our procedure with reference to the effect we want to get. But there are times when we find it necessary to forget the rule entirely. Of course, in making night effects, with Panchromatic film and a red filter, we disregard it, letting the shadows go inky black, as they are in the real moonlight. Similarly, there are some occasions when we must disregard the rule in ordinary work. I recall one such occasion which occurred on my vacation. It was in a mountain canyon, the foreground was in deep shadow, while the background was a frothy waterfall, in intense sunlight. If I exposed for the one, I need must lose the other. Thus the question arose, what did I want? Foreground shadows, or background high-lights? I could easily get one or the other perfectly, or perhaps both, at the expense of a flat, uninteresting picture. As I wanted the background, I exposed for it, letting the deeply shadowed foreground take care of itself. The extreme contrast between the two lent a considerable illusion of depth, whereas if I had tried to compromise, I would have had a flat, uninteresting scene, indeed. It so happened that that particular scene contained no human figures; but had there been any their presence would not have altered things a bit. Had they been in the foreground, their silhouetted action would have been self-explanatory, while any facial action could have been brought out, as usual, in fully-exposed close-ups from a different angle.

Character in Close-Ups

Close-shots of people can be not only records of their physical appearance, but artistic portrayals of their characters, as well. Men, for instance, are best photographed with rather hard lightings, and in sharp focus. This lends a virile, masculine quality to the scene. Women, on the other hand, are often better shown with softer, flatter lightings—especially well-balanced back-lights—and in soft-focus. This accentuates the feminine gentleness. Old people, too, are best shown with flat lighting, and a slight degree of diffusion. However, these rules, like all others in art, are only generalizations, for cine-portraiture should, like all other portrait forms, adapt itself to the expression of the subject's character.

Motion in Art

When the use and abuse of exposure and focus are mastered, the experimenter is free to manipulate the most vital factor of all—motion. He must, of course, thoroughly understand

(Continued on Page 47)

A professional amateur

JACK ROSE....

...and his FILMO

Jack Rose with his new Filmo 70-D mounted beside his Bell & Howell Standard Camera What the big one gets the little one gets and Jack says its plenty fun

JACK ROSE is one of those professional cinema folk who got the 16 mm. bug . . . and reached for a Filmo. Having worked with a Bell & Howell all his professional life, his choice was to be expected.

"I recently bought a Filmo 70-D," says Jack, "together with a projector, a screen, and—oh, well, I got the whole works and I'm telling you, it's the best investment I've ever made. The camera is as perfect as a camera can be and I know it's built with the same precision and fine workmanship that its professional brother is—and that's about as close to perfection as has ever been reached. I ought to know, for I've been using Bell & Howell professional cameras for twenty years."

Filmo 70 D— "Master of all personal movie cameras" Seven film speeds, three-lens turret, variable viewfinder $245 and up in Sesamee-locked Marfair case Other Filmos from $92 00 up Filmo Projectors, $198 and up

Jack's story isn't a new one . . . it's the story told of Filmo the world over. Filmo is a truly marvelous piece of camera craftsmanship, with almost the versatility of its big brothers, and it makes movies that rival the finest on the big screen. You'll want nothing less than Filmo for yourself.

See Filmo at your dealer's or write today for the illustrated booklet, "What You See, You Get."

BELL & HOWELL

FILMO

Professional Results with Amateur Ease

Bell & Howell Dept. VV, 1848 Larchmont Ave., Chicago, Illinois New York, 11 West 42nd Street Hollywood, 6324 Santa Monica Blvd. London (B & H Co., Ltd.) 320 Regent Street *Established 1907*

Mr de Mille and his Eyemo

Professional

Cecil de Mille Goes

by **WILLIAM**

ACCORDING to the psychologists, pride of accomplishment is one of the most deeply rooted of all human emotions, and, in its manifestations, one of the most surprising, for few famous people exhibit this pride with regards to the accomplishments which have made them famous Henry Ford, for instance, is vastly more interested in having accumulated a vast collection of early Americana than in having revolutionized industry John D Rockefeller is far more proud of his golf scores than of his millions And in the field of motion pictures, Cecil deMille is far more elated over his success at camera-angling with rod and lens than he is of having made cinematic history with such great productions as "The Ten Commandments," "The Volga Boatman," "The King of Kings," "The Godless Girl," "Dynamite," or even his most recent "Madam Satan"

For, during the brief respites which he allows himself between pictures, Mr deMille's favorite recreation is to slip away on his yacht, to pursue such big-game fish as the swordfish and tuna with a rod in one hand, and an Eyemo in the other He is proud of his successes with both, albeit a trifle apologetic at his adherence to the 35 mm standard in this day of the all conquering 16 mm

"You see," he explains, "I've used an Eyemo ever since they have been on the market I still have my original one, which I believe was actually the first one produced I've photographed many thousands of feet of film with it—and it's still purring as smoothly as ever; it absolutely refuses to wear out I almost wish it would though, so that my conscience would be less troubled at discarding it in favor of my new 71-C Eyemo! But then there are so many conveniences on the new model—such things as the lens-current, the multiple-masking finder, and the variable speed motor—that I know will prove invaluable in the particular style of work I do. You know, I bought myself a 70-D Filmo just for those particular features a few months ago—and then I found I couldn't use it! my family got hold of it before I did! The first time I wanted to use the Filmo, I found that one of my daughters had taken it to use on a week-end trip The same thing happened the next time, and the next, so I gave up, and returned to the Eyemo But I live in constant fear of the day when one of the girls will discover that the Eyemo is no more difficult to operate than the Filmo—and rob me of that, too!

"I can think of no better companion for a fisherman than such a camera as the Eyemo, for it can be held in the hand, and be always ready Of course, good fishing films are harder to make than any other sort, for they cannot possibly be 'staged,' and when the subjects are such spectacular fighters as swordfish or tuna, they demand the very quickest of thinking on the part of the photographer, and a camera that can be instantly gotten into action

"When I first started to make pictures of my fishing trips, years ago, I tried the idea of having one of the studio cameramen come along with one of the big studio cameras But I soon learned that that wouldn't do, for when you are dealing with such subjects as these, you've got to have a camera that is always ready to go and one that can move around the boat as speedily as you do yourself You never can foretell, you know, just when or where the fish is going to break water, or what he is going to do So, as the Eyemo came along just then, I decided to be my own cameraman; a step which I have never regretted

"Making one's own, personal movies is tremendously fascinating, whether or not one's business happens to be making motion pictures for the rest of the world Of course, when it comes to such personal films, I suppose we all make about the same sort of pictures Whatever our business, we all have families, and friends and pets, and we like to record them and their pleasures in the same way And, as we are all amateurs together, we make the same mistakes, and feel the same elation over our successes Aside from my films of my family, I think that my greatest pleasure comes from using my camera in conjunction with my hobbies of fishing and yachting As I have already said, making effective pictures of fishing is a difficult and fascinating problem in itself You can't lay down any rules for it, as no two fish will act the same way All you can do is have your camera always ready for action, and hope for the best

"As for photographing yachts—what more pictorial subject can you find? They combine grace of line and motion to a very high degree, and they are always different In the case of sailing craft, for instance, every change of angle and light gives a different impression If the light comes from behind your camera—what the cinematographers call a 'front light,' you will get a beautiful picture of snowy sails against a dark sea and sky If the light comes from above, and behind the

Amateurs »

Eyemo Camera-Angling

STULL, A. S. C.

yacht, you will get an entirely different conception, with grey sails against a higher-keyed background And lastly, at sunset and dawn, when the sun is low, what beautiful silhouettes the same craft will make!

"Sailing craft—and boats of any description, for that matter—offer unusual opportunities for interesting camera-angles The lines of the rigging, sails, etc, offer chances for unusual compositions, while the wake, and the bow-wave always offer fascinating studies of motion I have personally always found such motion-studies exceptionally interesting, for although you may shoot thousands of feet of them, there is always an intriguing lack of regular repetition in them I've spent hours with my Eyemo, stretched out on the bowsprit of my boat, catching different angles and different phases of motion—and still the subject is fascinating But, while on the subject of unusual camera-angles, let me say right here that the amateur—or professional—cameraman should be discreet in using them Every sort of moving picture—

(Continued on Page 42)

Mr de Mille camera-angling

Mr de Mille directing the zeppelin sequence in "Madam Satan"

Exploring Mexico with a 16 mm. Camera

An Overworked Editor Shoots Mexico

by **PHIL TOWNSEND HANNA**

Editor, 'Touring Topics

THERE was no one else to do the job so I undertook it This, frankly, is the reason I operated a 16 mm motion picture camera on the First International Pacific Highway Expedition of the Automobile Club of Southern California, to record its rather momentous journey from Los Angeles to Mexico City The expedition, for the information of those who are not acquainted with it, had for its purpose the location of a feasible route for an automobile highway from California's largest city to the capital of Mexico This section of road is part of a proposed highway which will, some day, link Fairbanks, Alaska, with Buenos Aires, Argentina

The party of ten men—engineers, mechanics, drivers, map-makers, and expert road builders—travelled in five light cars, three of them being trucks, and two, touring cars The entire distance, save some 400 feet, was traversed by the cars on their own power But that 400 feet—over roads repeatedly declared impassable—required oxen, a corps of men and block-and-tackle

The problem confronting us was not only to map and locate the proposed road, but to bring back a pictorial record of the party's progress and a hint of its scenic beauties and the nature of the country traversed

A week, or thereabouts, before we were scheduled to start, the chief of the party nonchalantly asked me one morning how preparations were proceeding for the assembling of moving-picture equipment I pleaded total ignorance and was amazed to discover that I was being depended upon to furnish the motion picture record, as well as the still photographic record, the written story of the venture, and the daily bulletins broadcast over the expedition's portable short-wave transmitting radio

I demurred I had never operated a motion picture camera in my life! And I was expected to bring back a suitable story of one of the most important expeditions ever conducted in the Americas My opposition got me nowhere I hadn't done it, the chief admitted, but I could do it, and, what was more, I MUST do it. And so I resigned myself to it That the resulting record, faulty though it is, is as good as it is, surprises no one more than myself A knowledge of exposure, lighting and composition, gained over several years of still pictorial photography, I must admit, is all that saves the picture

The question of equipment was of primary consideration It must be light. We couldn't think of transporting professional equipment even though I had felt competent to operate it. We simply couldn't spare the room for it. Within twenty-four hours we had chosen a Filmo 70 D and ordered it equipped with three lenses—an f 1 5 Meyer Plasmat of 20 mm focal length, an f 2 Schneider Xenon of 5 mm focal length, and an f 4 5 Taylor-Hobson Cooke, of 4-inch focal length The combination under actual working conditions, proved highly satisfactory

The problem of gaining accurate focus necessitated the installation of a Leitz distance meter, which was mounted in the conventional position above the viewfinder at the rear of the camera A Thalhammer tripod with panorama head was utilized, but an innovation was introduced by mounting on the head and the base of the camera circular screw plate approximately 1½ inches in diameter, with bayonet thread This proved a great time and labor saver The camera, with this device, was mounted and dismounted with merely one-eighth of a turn and although the device at the outset appeared frail, it served faithfully throughout the duration of the journey.

I made several preliminary tests of the equipment, but was dismayed to find that none of the panchromatic negative films then on the market was reliable I had planned to make everything on panchromatic negative stock and print it as needed Butsuch negative film as was tried—three varieties—proved so grainy and so flat as to be out of the question The only alternative was to employ the normal reversible stock It worked out excellently More than 4,000 feet

A typical scene along the route covered by Mr Hanna and his trail-blazing party

of film were exposed It showed a fine scale of gradation, and the capability of withstanding a world of punishment in over and under exposure As this is written, the film has been cut and titled, made up in various lengths from 1,000 to 3,000 feet, and duplicated The duplication has produced very acceptable film Another time, with the knowledge that considerable duplication would be required, I would have the reversible film developed as negative, and do the cutting from positive prints.

Mexico is not exempt from photographic difficulties common to all tropical countries In the first place, film must be carried in what is called "tropical pack," or hermetically sealed tins that protect it from heat and the high humidity of the tropics Moreover, it must be developed as shortly after it is exposed as is practicable And, to further complicate the situation, Mexican customs regulations require that all film leaving Mexico be developed so that it may be inspected I didn't learn of this until well into the interior At the outset I shipped undeveloped film back to Los Angeles for development We had been granted "todas facilidades" or all facilities by the Mexican government, and this probably accounts for the fact that it was not held up at the border, or opened and perhaps ruined by exposure to light When I learned how stringently this regulation was enforced I took no more chances, but shipped the film instead to Mexico City for processing

It is difficult to imagine how fiercely harsh the light is in tropical regions In Mexico as in India, as Kipling relates, the dawn, of a certainty, "comes up like thunder" There are none of those periods of long shadows, night and morning, which, with their soft light, are the delight of all photographers The sun smashes up into the heavens and seems to remain suspended directly overhead the day through The result is top lighting—the worst possible for all types of photography The high lights are clear and brilliant and the shadows so deep and velvety as to defy penetration Could the amateur handle his own development, he might control this by softer development But when he must rely upon commercial establishments, it is virtually impossible to avoid "soot and whitewash" effects.

Mr Hanna shooting a scene in Mexico

The current models of 16 mm cameras, highly efficient though they are, are woefully lacking in many respects The footage at one winding for instance, is far from sufficient In many scenes it is impossible to carry them smoothly to an end with one winding and jumpy sequences result The footage available at a single winding must be increased to forty or fifty feet, or an auxiliary crank, instantly available for action be installed before this can be remedied One camera on the market has this feature, and the equally important one of visual focussing, but both should be common to all types

The turret-head, on the contrary, has increased the range of workability several hundred per cent With the f 1 5 Meyer lens which I used, the camera was, to all intents and purposes a universal focus model, even though the lens was employed at its greatest aperture And the broad field of vision proved admirable for many scenes The photographer who becomes cinematographer, will miss in the moving picture camera the advantages of the rising and falling front, to be found on his still apparatus It is very much of a handicap in architectural

(Continued on Page 43)

Preparing a path for the autos

About Lenses

How a Lens Forms an Image

IN ORDER to take a photograph we use a lens which forms an image of the object we want to photograph upon the film

The simplest lens which we could use would be a small hole If we take a sheet of cardboard and make a hole in it with a pin, and then, in a darkened room, hold the cardboard between a sheet of white paper and an electric lamp, we shall see on the paper an image of the lamp filament.

The diagram shows how this image is produced A ray of light from each portion of the filament passes through the

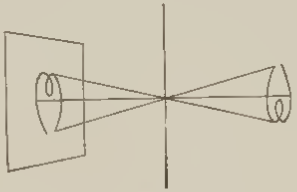


Fig. 1

pinhole and forms a spot of light on the paper, and all these spots joining together form the image of the filament

If we take the lens out of a camera and replace it by a thin piece of metal pierced with a hole made by a needle (a No. 10 sewing needle is about right, and the edges of the hole must be beveled off so that they are sharp), than we can take excellent photographs by giving sufficient exposure

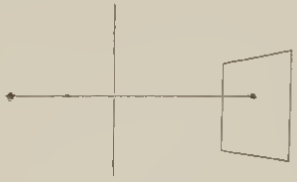


Fig. 2

If the pinhole is about six inches from the film, then an exposure of about one minute for an outdoor picture on film will be required. It is necessary, of course, to make a well fitting cap for the lens aperture so that no light will get in except through the pinhole, and also to make a cover for the pinhole to act as a shutter for exposing

But if a pinhole were the only means of forming an image it is very improbable that photography would ever have been developed, since the exposures are so long in consequence of the small amount of light which can pass through the pinhole

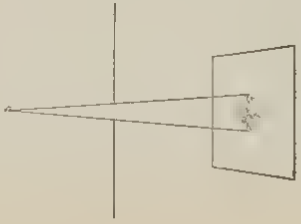


Fig. 3

In order to get more light, we could try making the pinhole larger, but the effect of this is to make the image very indistinct, and even the smallest efficient pinhole can not give as sharp an image as a good lens

Suppose we have a small pinhole forming an image of a star, as shown in Fig. 2 If we make the hole larger, we shall get a round, spreading beam of light and no longer get a sharp image (Fig. 3)

What we need, if we are to use the large hole, is some means of bending the light so that all the light reaching the hole from the star is joined again in a sharp image of the star on the screen, as shown in Fig 4.

If a ray of light falls on a piece of glass so that it is not perpendicular to it, it will be bent There is an interesting experiment which shows this very well. Take a thick block of glass and place it so that it touches a pin (which is marked B in Fig 5) and stick another pin (A) in the board. Now

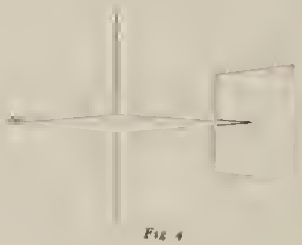


Fig. 4

look through the glass and stick a pin (D) between your eye and the glass, and in the same line of sight as A and B, and lastly another pin (C) touching the glass and in the same line of sight as the other three

Take away the glass and join up the pinholes with pencil lines. You will find that the line DC is parallel to the line AB but is not in the same line, that is, the ray of light marked by the line AB was bent when it entered the glass and then bent back again when it left it. This experiment shows that we can bend light by means of glass

Fig. 5

Fig. 6

If we take a triangular piece of glass (called a prism) we can bend a ray when it enters the glass and also again when it leaves the glass (Fig 7) And a lens is really two prisms stuck together base to base (Fig 8) So that if we put a lens in the hole with which we want to form an image, we can now

do what we wanted to, namely, make all the rays from the star come together again in the image of the star This is the purpose of our camera lenses, to form an image as sharp as that given by the smallest pinhole and yet much brighter than any pinhole could give.

Fig. 7

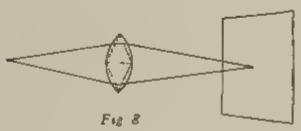


Fig. 8

Filmo Topics

THE October issue of Bell & Howell's wonderfully interesting monthly publication, **Filmo Topics**, should be very worthwhile to the users of 16 mm cameras This publication will be mailed free to anyone who simply writes to the Bell & Howell Company at 1848 Larchmont Ave., Chicago It is a splendid little publication, packed with useful and interesting ideas and information The contents of the October issue follow:

TITLING YOUR FILMS No. 1 Pick the method you like best The first of a series which will fully cover amateur titling, this article reviews the various general methods

FILMING THE GREAT SMOKY MOUNTAINS—by Carlos C Campbell. How Jim Thompson, Knoxville, master photographer of the Great Smokies, achieves his beautiful results Illustrated with four photos by Mr Thompson

FILMING CANADA FROM THE R-100 A pictorial page taking the reader on a dirigible flight over Canada with Capt Badgley of the Canadian Government Motion Picture Bureau

CAMERA TRICKS BY FILMO OWNERS Ideas which fellow movie makers have hit upon and which may prove helpful to you

WHAT IS A NINE-TO-ONE MOVEMENT?—by Joseph A Dubray Article No 10 of the "Facts About Filmo" Series, answering this frequently asked question

FILMOS AND FOOTBALL Brief advice to those who will film the season's sport

QUESTIONS AND ANSWERS

Welcome!

VISITING cameramen and amateurs will always find the welcome sign on the doormat at the Hollywood Camera Exchange, 1511 North Cahuenga Boulevard, when they reach Hollywood Art Reeves and Cliff Thomas have a dark room that will be turned over to any of the visitors In addition, any information or assistance that can be given will be handed out very cheerfully by them

A Book is Known by its AUTHOR The ANNUAL gives you the knowledge of EXPERTS!

$2.00
AT YOUR DEALER
DREM PRODUCTS CORPORATION
152 West 42nd Street New York City, New York

GOERZ
CINE LENSES

In the manufacture of Goerz Lenses, conscientious and intelligent application is displayed in each successive process—from the careful selection of the optical glass used to the last ultimate polish and adjustment of the lens elements

Kino—Hypar f:2.7 and f 3, 1 to 4 inch focal lengths

Cinegor f:2 and f:2.5, a Superspeed series—1⅜ to 4 inch focal lengths

Telestar f 4 5, a Telephoto series in focal lengths from 4⅛ to 13½ inches, for long distance shots and closeups

A new catalog listing the complete line of Goerz Lenses and Accessories will be mailed on request

C.P.GOERZ AMERICAN OPTICAL CO.
317 EAST 34TH ST. NEW YORK CITY

Professional Amateurs

(Continued from Page 371)

no matter how commonplace—should be made with the thought of telling a story underlying and motivating it Unusual camera-angles and compositions, properly employed, can be very useful aids in this story-telling but overdone, or used in the wrong places, they can be even greater hindrances Therefore the amateur cameraman should be especially sure that there is a definite, logical reason for each such unusual scene that he attempts Remember that the camera is, in effect, the eye of the audience, and an exaggerated use of unnatural, 'trick' camera-angles will give the audience the sensation of having been forced through an unpleasant series of gymnastics

"On the other hand, this same fact that the eye of the camera is that of the audience can be turned to a useful purpose in the unfolding of a story on the screen, for you can not only make the audience see exactly what you want it to see, in the way you want it to see it, but you can make it participate in the action of a scene, and achieve your emotional effects much more perfectly for this participation In the studio, this is, perhaps, most evident in the technique of the moving camera, or 'truck shots,' but it is also noticeable in the effects gained from the use of intimate flashes in mob scenes In practically every one of my pictures which contain such sequences, I have made very effective use of a regular battery of Eyemos for such use There were many such scenes in 'The Ten Commandments,' in the earthquake sequence of 'The King of Kings,' in the riot sequences of 'The Godless Girl,' and in the Zeppelin sequences of 'Madam Satan' In these sequences, by the use of the inconspicuous Eyemo, I am able to make my audience an actual part of the crowd, and thus heighten the emotional effect at which I am aiming far more than I could in any other way In doing this, however, I find that I must use particular care in the men I pick to operate the Eyemos Therefore, I invariably put the very best men on that detail With the lighting and camera set-ups arranged by a capable chief cinematographer, almost any sort of cameraman can get a good scene with a stationary camera, but the men with the Eyemo, being right in the scene, a member of the mob, is entirely on his own He must not only have the photographic ability to manage his camera under every condition, but he must have a fine dramatic instinct in order to choose the effective and important bits of action to photograph Therefore, in such scenes, I assign the Eyemos only to the most experienced and capable of First Cinematographers And in the hands of such experts, the Eyemo is one of the most valuable and important of cinematographic instruments

"That is the wonderful thing about such cameras as the Eyemo and the Filmo they are perfect photographic instruments, yet so compact that they can be used in positions and places where a larger camera is impossible An instance of this is the fact that I am now working on a plan to take my Eyemo with me to the bottom of the sea A short time ago I obtained a light diving-helmet in which I can descend to moderate depths And, with the possible exception of my first solo flight in an airplane, I have never experienced such a thrill as I did on my first stroll along the bottom of the sea Around Catalina, the water is very clear, the marine growths most beautiful, and—which is most interesting to an angler—the fishes seem almost tame Instead of being frightened at your intrusion, they seem actually curious Therefore, I am more than eager to devise a means of taking my Eyemo down with me, and adding to my fishing films an authentic record of the fish family 'at home', as it were

"In closing, let me say one word to those amateur cinematographers who are planning to make their own dramatic films Such an undertaking is tremendously interesting, but it is also tremendously exacting It cannot be a one-man proposition No single individual can adequately handle the writing, directing, photographing, cutting, and titling of a real photoplay It must be a cooperative proposition if anything like success is to crown your efforts Therefore, if you are going to tackle a private photoplay, make it a group enterprise Specialize! Remember that a professional photoplay is the result of the concerted efforts of hundreds of specialized artists and technicians, in more than twenty-five separate departments, and that success is only achieved when all of them coordinate perfectly Three decades of professional motion picture production have taught us this lesson, so, my advice to the amateur is to learn this lesson from the professional to make Organization, Specialization, and Cooperation his watchwords if he would successfully produce his own photoplays"

Mitchell Corp. Picnic

WORK was forgotten for a day at the Mitchell Camera Corporation plant in Hollywood on September 6, and executives and employees with their families made merry at a picnic held at Brookside Park, Pasadena There were races and games and prizes and all the usual excitement which makes picnics so enjoyable, and all voted that the day was a huge success

Amateur Talkies

Bradford, Eng —Bradford Amateur Kinematograph Society, composed of theatre projectionists and engineers and service men of sound reproducing firms, is planning the production of its own talking films A studio has been acquired, and members are whipping it into shape The Society proposes to make films in 300 and 600 feet lengths, using separate negatives for action and sound It also hopes to get two sound tracks on one film

The FIRST and ONLY "GOOD" Flame-Proof Film Cement ON THE MARKET

For all 16 m m and 25 m m Safety Films For Films used by Filmo Cine-Kodak, Eyemo Victor-Cine and every make of Amateur Movie Camera or projector Films

INSURANCE must soon demand that PROFESSIONALS and AMATEURS

USE ONLY FLAME PROOF

GENUINE 2 IN 1 Guaranteed FILM CEMENT

IT JUST WONT BURN

In one ounce Bottles with Brush 25 cents

HEWES GOTHAM

For All Standard Nitrate Films — Movietone, Phototone, Technicolor, Pathé-chreme

Protect yourself—Get Your Supply Now! "The Splice Is Stronger Than the Film Itself"

AT DEALERS or write HEWES GOTHAM CO 520 W 47th St New York City

Exploring Mexico

(Continued from Page 39)

work, of which there is much to be done in Mexico, whose glorious churches and fine colonial structures capture the photographer's fancy. The only way he can hope to record their charm is to pan down or up upon them This is, essentially, an expedient but one that is not at all objectionable. On numerous occasions when the background of a scene to be photographed consisted of a tall church or other edifice, and the action was to take place in the immediate foreground, I opened the scene by panning them down on the background, very slowly, and bringing the camera to rest on the scene of action

If the natives of this—or any other country for that matter—are to be photographed at their best, they must be caught unawares, or "kidnapped" as news photographers express it. Immediately that they learn they are subjects for the photographer, they become stiff and lose all that native charm and grace that makes their every action so engaging For "kidnapping" purposes the two and four-inch lenses proved excellent On numerous occasions, I set up the camera at the corner of a building, in the shadows, trained the long lenses down a street or across a plaza, and recorded some delightful bits of native life and customs—mantilla-clad old women bargaining in the market-place, strolling native minstrels singing beneath balconies, quaint and colorful religious processions, a delightful composition of a pathetic but dramatic funeral, with the simple coffin borne on the shoulders of cotton-clad natives, the while the mourners trudged with heads unbared beside, behind and in front of it.

Such scenes never could be registered with the normal lens. Nor can they be gotten with the longer lenses unless they be of wide aperture. The two-inch Schneider, working at f 2, penetrated into church interiors, the black shadows of gardens, and patios, and recorded scenes worth their weight in gold many times over

The 16 mm camera has great potentialities, and with the improvements that are constantly being made on it, is a valuable instrument for the advanced amateur who, by force of circumstance can neither afford to purchase professional equipment or, as in our case, can't avail himself of it on account of its weight, its bulk or its impressive appearance

Kodacolor Time

WITH the arrival of Autumn comes the most glorious period of the year for those who use kodacolor. In those sections of the country where the snappy frost of Autumn turns the forests into gorgeous riots of color, what could afford the amateur more opportunity for making pictures in natural colors!

Hirsch & Kaye Catalog

HIRSCH & KAYE of San Francisco are to be congratulated upon the magnificent new catalog recently issued The catalog is a remarkably fine piece of work, and may be secured gratis by consumers and users of merchandise of a photographic nature It is well worth securing

Kodel Coming

THE new 16 mm home movie camera and projector, which has been in the formulative state for a considerable time, is slated to make its appearance shortly, according to advices from that organization This new camera is revolutionary in design and should make considerable of an impression in the field

New

The STANRITE Tripod

was developed to fill the need for a lighter, more compact more rigid tripod For good cine results a firm rigid support is necessary Professionals and serious amateurs find the new Stanrite Tripod and Panrite Tilting Top an ideal combination

Stanrite Tripod Built in three sections Telescopes to 21". Over all size 55" Weight 3½ pounds Finished in mahogany and chromium Rigid for all forms of motion picture work Prevents body weave, jumps, jerks Saves yards of film Indispensable with telephoto lenses Price $12 00

PANRITE

Universal Tilting Top has exceptional tilting range—revolves with unequaled ease, smoothness and precision Holds any camera Chromium plated Price $9.00

Testrite Instrument Co.
New York, N. Y.

AMERICAN CINEMATOGRAPHER,
1222 Gnaranty Bldg.,
Hollywood, California.

Gentlemen. Please find enclosed three dollars (Foreign rates additional), for one year's subscription to the American Cinematographer, to begin with the issue of _____, 19____.

Name _____

Street No. _____

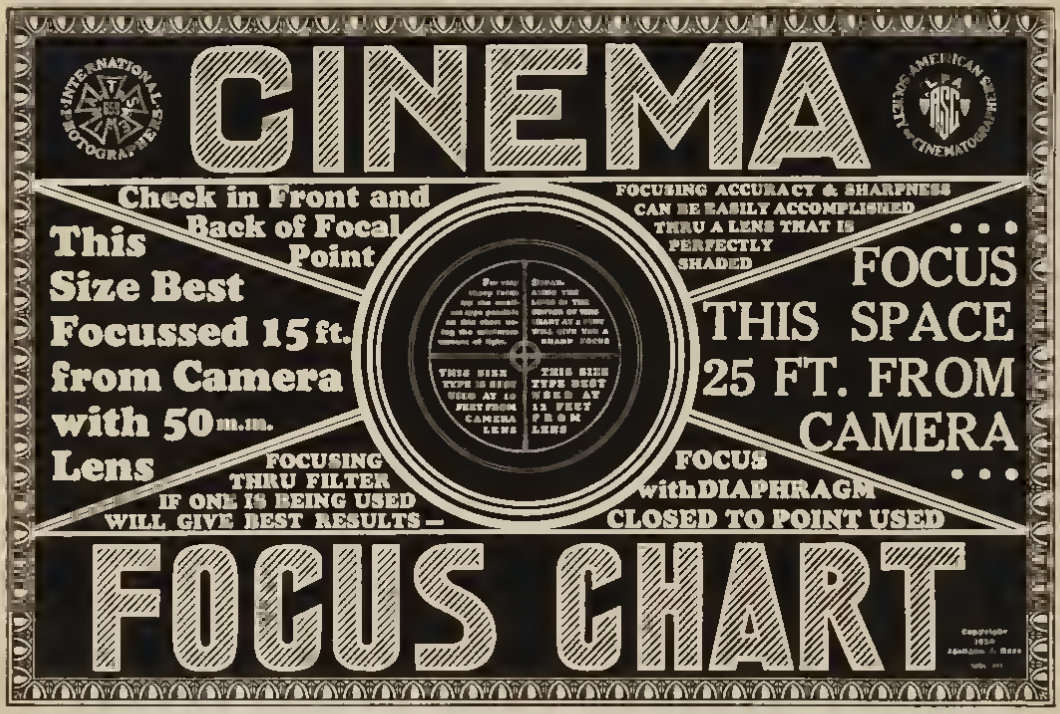
Town _____ State _____

Clubbing Rates

	U. S.	Canada	Foreign
American Cinematographer	$3.00	$3 50	$4 00
In Club with:			
Camera Craft	3.90	4 65	5.40
Photo-Era	4 75	5 00	6.40
The Camera	3.90	4 40	5.40

Please make all remittances payable to
THE AMERICAN CINEMATOGRAPHER

Another From Jackson Rose


CINEMA
Check in Front and Back of Focal Point
This Size Best Focussed 15 ft. from Camera with 50 m.m. Lens
FOCUSING ACCURACY & SHARPNESS CAN BE EASILY ACCOMPLISHED THRU A LENS THAT IS PERFECTLY SHADED
FOCUS THIS SPACE 25 FT. FROM CAMERA
FOCUSING THRU FILTER IF ONE IS BEING USED WILL GIVE BEST RESULTS —
FOCUS with DIAPHRAGM CLOSED TO POINT USED
FOCUS CHART

JACKSON J ROSE, A S C, whose hobby is presenting the motion picture world with new mechanical ideas and inventions, and whose profession is that of being an excellent cinematographer, has added another to his already long list of contributions This time it is a focusing chart that is designed for any eye

A description of the chart is rather futile, as a much better idea of it may be gained from the cut above, which is a reproduction, greatly reduced, of the chart Rose's idea is that lines or bars are very hard to focus upon, especially through glass in booths or blimps So he has used type of various sizes instead of the usual bars or lines You choose the smallest type you can see at a given distance which you are focusing upon, and it's simply either in or out of focus

This chart, explains Mr Rose, can be used with any lens, particularly the wide angle lens, for its large, bold white letters upon black background makes them distinctive and easy to focus upon at any distance and with any lens It comes fastened on the back of a strong, neat folder Open, it measures 12 by 18 inches, but folds to 6 x 12 inches and can be carried easily in the accessories case This chart will be distributed to cameramen free by one of the companies dealing in motion picture stocks Announcement of the company will be made later.

Pathe-Natan Building Studio for Television

ERECTION of a studio at Romanville, France, for the purpose of conducting television experiments is contemplated by Pathe-Natan, following its recent merger with Radio-Vitus in conjunction with RCA The latter is associated with Radio-Vitus in the manufacture of the Melovox apparatus, which will be used in houses of the Pathe-Natan circuit. It is considered likely that there eventually will be broadcasting of television in these theatres.

The Motion Picture As An Art

(Continued from Page 11)

although the production of stage plays as talkies—word for word—would be more harmonious than some of the re-written talking pictures.

The talking picture has the distinct advantage of being able to employ large casts, large sets, and out-door scenes It also has an advantage in being able to portray facial expression. But in dialogue it is liable to be at a disadvantage. Some form of realism is demanded by present day audiences The stage, by careful limitation to a distinct scene, preparation for entrances and exits, personal appearance of actors, and comparatively realistic sets, can make things happen to order. The end of an act is expected at a certain time, and the known artificialities of the stage are accepted

Dialogue on the screen, however, is liable to be cut off at any minute. There are throw-backs to what various other groups of characters may be doing at the same time Various plots are being worked out at, in the indicated time of the picture, the same minute When masses of characters are employed, the mass movement will distract attention from the dialogue While the plot of a motion picture may be worked up to a climax, it is often difficult to work the dialogue to a climax simultaneously.

In an attempt to be realistic, the talkies admit much dialogue of a trivial nature, and much repetition Threads of the plot are introduced, and nothing comes of them Many other things tend to distract The purely pantomime acting of the silent picture has reached a stage where noteworthy achievement was often recorded The talkies are still in the experimental state.

All this tends to distract from motion picture art It is very possible to provide an exciting story without being artistic It is

even possible to give a good representation of character, and the laugh producing possibilities of slapstick seem unlimited. But, at the same time, even the general audience appreciates work with a finish, with beauty, with correct timing. Neither the motion pictures nor the stage can ever go in for absolute realism, because the presentation of every speech or event that might occur if such a thing were happening would soon become very monotonous. There must be artificial selection. Artificial selection being a recognized necessity—only the best and the necessary incidents and dialogues should be used.

And art need not be necessarily for a select group of "Intellectuals." The plays of Shakespeare and Moliere were given to the masses. The best works of literature were popular in their day, and hold an appeal to the general public at the present time. The appeal of art and of artistic work is universal, so there is no reason to be afraid of it. Besides, there is enough jarring and unevenness in ordinary life to make even the most hardened wish for a change somewhere. And the most common form of relaxation is the motion picture.

Creative zest is returning. Romance is coming to the front, and once again men and women look forward to an incredibly romantic destiny. So we must look soberly and thoughtfully at the future of the movies. Pictures without a sense of humor and without real dramatic effect will not be tolerated. The picture of the future must be brighter and more adventurous. We are alive today in the most thrilling age through which man has yet passed on earth.

Until lately the screen industry has been puzzled about its future pathway in sound productions. There are two pictures which should help them a great deal in learning just what to do—and what not to do.

The first is the triumph of Emil Jannings, "The Blue Angel." It may fall short of greatness, but it establishes a new standard of sound productions. Knowing where to stop with sound effects, the director and producer should lead the way toward keeping a deluge of songs and dialogue from being the ultra-dominent part of a picture to the detriment of the picture itself and of the box office. There has been little sign of art in most of the talking pictures so far, and in many cases the sound has been noise.

The other production which should give many hints to producers is "Abraham Lincoln," directed by D. W. Griffith. In this, too, sound effects have been employed with moderation, and the whole production is of a high standard.

It is hoped that these productions will give the producers a lesson, so that the public will not have to wait long for a similar or better production.

14 Productions for 1931 Announced by B. I. P.

FOURTEEN productions planned by British International Pictures for 1931 have been announced. The list includes the first Bernard Shaw play to be talkerized, "How He Lied to Her Husband."

First scheduled for completion is "Almost A Honeymoon," the West End stage comedy, due for release next June. This will be followed by "Night Birds," a Richard Eichberg bi-lingual crook drama; "Children of Chance," another bi-lingual; "Why Sailors Leave Home," farce with Marika Rokk of the Follies Bergere. All of these features are now being cut and edited.

"Compromised," adapted from "Compromising Daphne," will be directed by Thomas Bentley; Jacqueline Logan and Owen Nares will appear in "The Middle Watch," the Ian Hay stage success; "The Love Habit" is being directed by Harry Lachman. Seymour Hicks is to do a French farce by Louis Verneuil. E. A. Dupont is down for a tri-lingual, 'Cape Forlorn," from the play by Frank Harvey, "Potiphar's Wife" will be entrusted to Thomas Bentley; "The Man from Chicago," "The Man at Six" and "Sweet Nell of Old Drury" are being lined up, and titles will soon be ready for two Alfred Hitchcock pictures.

MEYER
Kino-Plasmat
f:1.5

Calculated by
DR. PAUL RUDOLPH

Constitutes the Finest Optical Equipment for Your Camera

Calculated by Dr. Rudolph, the world's foremost authority on photo-optics, the Kino Plasmat f:1.5 indicates a distinct advance over the orthodox anastigmat. It is the ideal lens for cinematography being completely corrected for color and offering an increased plasticity—so that objects stand out in realistic perspective—group behind group—and actually life-like.

Focal lengths from 15 m/m to 3½ inches

The new Makro Plasmat f:2.7 for wide film is here.

LENSES Hugo Meyer

HUGO MEYER & CO.
245 West 55th Street
NEW YORK

From a Reader

WE are indebted to one of our subscribers, William S McClure, of San Francisco, for the three attractive pictures shown above Mr McClure is one of the many "advanced amateurs" who takes his work seriously and finds the **Cinematographer** a great aid As he puts it in his own words "I find The American Cinematographer invaluable and stimulating"

Lakin Rental Service

FRANK P ARROUSEZ, General Sales and Promotion Manager of the Lakin Corporation announces that the Lakin Corporation has established a rental department with twenty-four-hour service and with technical experts on hand for studio consultation and service at all times

This service, explains Mr Arrousez, was decided upon after much deliberation and consultation with technical executives of various studios H H (Pete) Harrod, with more than 20 years of technical experience to his credit, a man known throughout the industry for his ability, will be in charge of the rental and service department He will have as his assistant, Don Campbell, who is also widely known Any studio needing their service will receive it at any time

As an example of what is being done in the short while this department has been established, William Johnson of R-K-O asked for 14 gas plants, seven wind machines, 65 sun arcs, 75 plugging boxes and 40,000 feet of cable for use on "Cimarron" It was all there when needed

"We shall endeavor to give just such service as this in our new department all the time," says Mr Arrousez And, he points out that the service of his experts is at no extra cost to studios On a production serviced by Lakin Corporation technicians are put on the production and stay with it until the production is finished, which, at no additional cost, is quite a factor in the line of service

Dubray in Hollywood

JOSEPH DUBRAY, A. S C., head of the technical service department of the Bell & Howell Company arrived in Hollywood the other day, and took over the job of acting manager of the Hollywood branch of that organization Mr. Dubray expects to be here for some weeks reorganizing the Hollywood branch Then he plans to return to Chicago

Why Wide Film?

(Continued from Page 10)

photography, the minimum focal length usable is a 50 mm., whereas by using the reduced aperture, any lens practicable for use in normal 35 mm cinematography may be used

A further advantage is that this method makes possible the immediate production of wide screen pictures in natural color, by the Multicolor, and allied processes

In so far as the laboratory processing of films made for this use is concerned, there need be no difference from the standard high quality machine development now in vogue Due to the refinements of control, etc , which Mr Hunter has introduced in the procedure of machine development, negatives of high quality and extremely fine grain are produced, which makes it possible to project these small images to any size thus far attempted with wide film

To briefly summarize the advantages of this method of making wide screen pictures on 35 mm film no change of apparatus is needed, beyond the reduced aperture-plates used in cameras and projectors Further, every artistic and technical advantage claimed for wide film is gained, while the optical and production superiority of 35 mm film is preserved. In addition, by use of the bi-pack color processes, wide screen natural color is immediately available And finally, since figures are always more eloquent than words, this method will result in a direct saving to the industry of not less than $250,000,000 in comparison with the use of any wide film process, not to mention the saving of $10,000,000 annually on release prints And it is immediately applicable to production conditions

Editor's Note Gilbert Warrenton the writer of the above article is one of Hollywood's best known cameramen He was born in Lake View New Jersey March 7 1894 His parents were stage players, so as he puts it he was educated in a Taylor trunk as he journeyed from city to city He was always interested in photography as a boy and used to annoy the stage property men with his equipment In 1912 he decided to come to Hollywood He broke in as an assistant cameraman and in two years' time had become a full-fledged first cinematographer His first job was at Universal He hopped around among Universal, Triangle, First National, Famous Players and various others during the passing years but spent most of his time with Universal Among his outstanding pictures have been "Humoresque," "Under the Red Robe" "The Cat and the Canary" "The Man Who Laughs" "Mother Knows Best" "Captain of the Guard," "Showboat," and he has recently completed "Mother's Cry"

The ANNUAL is NOT a LUXURY It is YOUR TEXT BOOK!

Good Things Coming

KEEP an eye on the American Cinematographer during the next few months—if you don't you will miss articles that are really worthwhile. For example—

In an early issue there will be an article by Joseph Von Sternberg, noted Paramount director who directed such pictures as "Underworld," "Docks of New York," "Case of Lena Smith," "The Last Command," and has just finished a great one in "Morocco." Mr. Von Sternberg is a director who believes that photography is one of the greatest elements of a picture, so you may judge for yourself that his article will be as interesting as his pictures.

Then—there is an article on lenses by Joseph Dubray. Mr. Dubray needs no introduction to our readers.

Another wide film article will be found next month that will be worth anyone's time to read.

John W. Boyle, former president of the A. S. C., will have a special article, also, in the November issue, which gives a new slant on the business of picture making in foreign climes.

Kenneth McKenna, an actor, will give amateur "still" photographers an article on "Stills by an Amateur."

There will be another of William Stull's famous "Professional Amateur" articles, the regular amateur department, an article on sound, and—well—you just mustn't miss the November issue—or any other issue, or you will be depriving yourself of something you cannot afford to miss.

Amateur Movie Making

(Continued from Page 34)

the importance of proper sequence of motion in related scenes, but this is merely part of the elementary mechanics of cinematic motion. The point where controlling motion becomes an art is in speed, or Tempo. Tempo is the most vital factor in artistic perfection of a motion picture, and the most difficult. As in the Chinese language, where the pitch of the voice may utterly change the meaning of a word, in the motion picture the tempo of an action may change its meaning from comedy to tragedy, or vice versa.

This matter of tempo is of tremendous importance to the amateur, not only because it is in itself a fascinating, abstract study, but because it can change the meaning of the most carefully prepared scene to something utterly unintended. Therefore, the speed, as well as the routine, of any action should be carefully rehearsed before the camera is started. It is a serious mistake to allow people to merely 'run through' their actions before they are photographed, for unless the action is rehearsed exactly as it is to be shot, it may be found highly disappointing on the screen.

Unity

Finally, remember that a motion picture—no matter of what nature—is not merely a collection of individual scenes, but a definite whole. Therefore, in planning and executing each scene, plan it and execute it as a definite part of a perfect whole. The effect of a dozen well-conceived scenes can be ruined if one of them is improperly exposed, badly composed, or played at a faulty tempo. Therefore, plan each scene so that there is not only no flaw in it as a scene, but as a part of the picture itself.

The ANNUAL gives you the knowledge of experts!
OWN IT! QUOTE IT! PRACTICE IT!

Zeiss Tessar

No camera can be better than its lens. All Carl Zeiss Tessars ensure perfect definition and brilliancy, even at full aperture, and results will not be impaired by flare. These are only a few reasons why Carl Zeiss Tessar Lenses have universal endorsement

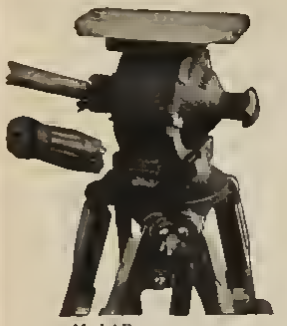
CARL ZEISS JENA

CARL ZEISS, INCORPORATED
485 Fifth Ave., New York ✦ 728 So. Hill St., Los Angeles

Non-Pulsating Rectifier Marketed by Forest Co.

THE Forest Electric Co., Newark, N. J., is now marketing a rectifier which, it is said, will supply a direct current free from pulsations. The only wearing parts, it is claimed, are the bulbs, which will last at least 1,000 hours and usually much longer, since two bulbs are being used at a time (except during changeover) and the load is alternately carried first by one set of two tubes then the other two as the projectors are alternately used. This rectifier embodies the use of four rectifier tubes, which are connected to two direct current circuits independent of each other, thus preventing loss of current at the first arc when the second arc is struck. Both arcs can be operated at the same time, it is declared, during the changeover period and there will be no diminishing of light from one projector while lighting up the second. It is claimed that a single unit will supply current for two projectors and will furnish 15 to 25 amperes to either projector continuously.

TRUEBALL TRIPOD HEADS



For follow-up shots are known for their smoothness of operation, equal tension on all movements and being unaffected by temperature

Model B
The Model B is for Bell & Howell and Mitchell Cameras and their respective tripods
The handle is telescopic and adjustable to any angle

The Model A is made for Amateur motion picture cameras and also fits the Standard Still tripods.

Trueball tripod heads are unexcelled for simplicity, accuracy and speed of operation.

The Hoefner four-inch Iris and Sunshade combination is also a superior product.

FRED HOEFNER
5319 SANTA MONICA BOULEVARD
GLadstone 0243 LOS ANGELES, CALIF.

AMATEURS

Keep Step with the Professionals by Reading The Technical Cinematic Magazine of the Motion Picture Industry.

THE AMERICAN CINEMATOGRAPHER

Published in Hollywood by the American Society of Cinematographers, the leading professional cameramen of the world.

You cannot afford to be without it.

For Amateurs—Service department, special technical articles by the world's greatest authorities on cinematographic science.

[Fill in and Mail Today]

American Cinematographer,
1222 Guaranty Building,
Hollywood, Calif.

Gentlemen: Please find enclosed three dollars ($4.00 for foreign rate) for one year's subscription to the AMERICAN CINEMATOGRAPHER, to begin with the issue of ____ 1930.

Name _____
Address _____
Town _____ State _____

American Technicians Will Talkerize Russia

UNDER the arrangement recently entered into between the Russian government and Joe W. Coffman of Audio-Cinema in New York to conduct a program of film industry development in Russia, units of American technicians will be sent over to Russia to install sound equipment in about 1,000 theatres, as well as to assist in production. Some 50 pictures are planned for this year.

Elstree Studios Busy With Five In Production

FIVE productions are now in work at the Elstree studios, England, with a number of American players appearing in the casts. In "Cape Forlorn," Fay Compton, Ian Hunter, Edmund Willard and Frank Harvey are being featured, while Jacqueline Logan, Owen Nares, Dodo Watts and Jack Raine head the cast of "The Middle Watch." Jean Colin, Charles Hickman, C. M. Hallard and Barbara Gott are working in "Compromising Daphne," while Seymour Hicks is appearing in "The Love Habit." Cast of "The Man From Chicago" includes Bernard Nedell, O. B. Clarence, Billy Milton, Joyce Kennedy and Morris Harvey.

New Schaefer Rheostats for Light, Heavy Duty

NEW light and heavy duty rheostats are being manufactured and marketed by Schaefer Bros., Chicago. The light duty type is built of porcelain tube resistance and the heavy duty rheostats utilizes grid resistance with which very good results have been obtained. The resistance is mounted inside a sturdy iron frame for floor mounting. A radial sliding brush of laminated copper is arranged to slide over a series of contacts mounted on a slate inside a steel box enclosure. The rheostat regulation is designed to vary the arc lamp voltage. Three terminals are produced. Knockouts are provided all around the steel enclosure so that connections may be made from either side, top or bottom.

New Line of Reproducers is Developed by Miles

MILES REPRODUCER CO. of New York has developed a new and complete line of microphones, dynamic units and several late types of theatrical horns. In addition to making complete public address systems, the company has a special organist system consisting of a special microphone, amplifier, two units and special air columns.

6670 W. E. Installations

WORLD wide installations of Western Electric Sound Systems total 6670 according to the latest report. Of this figure 4454 are in the United States and 2216 are in the foreign field.

Several interesting figures are revealed by the report. Great Britain has passed the 1,000 mark with 1,006 completed installations. Two installations have been made in Iceland and Malta has been added to the list of countries where installations have been contracted for.

Renewed activities are shown in Poland where installations have increased to 24, in Spain where the total is now 23 and in Austria where 31 Western Electric Sound Systems are now operating.

For Authentic Information Read the Annual!
Order Your Annual NOW!

Still Battling

SOUND film companies are still at war in Germany Five lawsuits are pending between the Lorenz Company (Kinotone) and the A E G (Klangfilm group) The latest move was an application for an injunction—which was granted—made by Kinotone, precluding A E G from commenting on the cases

What, No Dutch!

A LEADING Dutch paper, "Nieuwe Rotterdamsche Courant," has recently pointed out that there is not a single Dutch "talkie" on the world market despite the fact that there are 11 million Dutch-speaking people in the world and also that 30 percent. of the cinemas in Holland have been wired for the reproduction of sound-films

Some Progress

THE Union Cinematographique Francaise, although only in existence for a year, has already financed the production of seventeen French films Its capital, which was 2,000,000 francs, is to be increased to 4,500,000 francs, most of which is covered by three of the largest French banks. The directors of the company, all connected with banking and financial business, are Jacques Lehideux, Marcel Champin, Andre Chalus, Rene de Montaigu, Maurice Silhel, and M de Vogue

The sound film, "Janko, the Musician," which is now being produced in Warsaw, will have four versions—Polish, German, English and French This will be the first multi-lingual production turned out in Poland

Germany

THE German trade papers are strongly criticizing the unsatisfactory reproduction of sound films, even in leading Berlin theatres This, it is stressed, is particularly important now, at the beginning of the new reason, for the future of the sound film era The dialogue parts are sometimes mere whispers, while in other instances they are covered by extraneous noises Whether this is due to unsatisfactory recording or rather to carlessness on the part of the operator, is a question which should be investigated in order to avoid mistakes in the future. The fact that under the terms of the recent sound film patent agreement, interchangeability has become possible, makes it worth while to seek a definite solution of the problem

AMATEURS!
IF YOU ARE LOOKING FOR REALLY AUTHORITATIVE INFORMATION ON CINEMATOGRAPHY, GET A COPY OF THE
Cinematographic ANNUAL
» » TODAY!

ELMER G. DYER
AKELEY SPECIALIST
Aerial Photography Since 1918
Phone HE. 8116

Phone GL. 7507 Hours 9 to 5
Also by Appointment
Dr. G. Floyd Jackman
DENTIST
706 Hollywood First National Building
Hollywood Blvd. at Highland Ave.

HARRY PERRY, A.S.C.
MULTICOLOR FILMS
OXford 1908 HEmpstead 1128

HARVEY Wm. PRIESTER
Insurance Experting
CAMERA INSURANCE A SPECIALTY
510 Guaranty Building
6331 Hollywood Blvd., Hollywood, California
Tel: GLadstone 4811

MITCHELL CAMERA
FOR RENT OR SALE
Speed Movement—Fully Equipped—5 Matched Pan Tachar f.2.3 Lenses—4-3-2-40 and 35—two 1,000-ft. and four 400-ft Magazines—Friction Head for Panning—Gear Box for Different Speeds—Baby Tripod and High Hat—Cases for all with Yale locks.
Glenn R. Kershner
c/o A. S. C.

Mitchell and Bell & Howell CAMERAS
SALES and RENTALS
J. R. Lockwood
1108 North Lillian Way
Phone GRanite 3177 HOLLYWOOD, CALIF Cable Address "LOCKCAMERA" Hollywood

Have you ordered your Cinematographic Annual?

INDEX to ADVERTISERS

Bell & Howell Co 1, 35
Brulatour, Inc , J. E. 21
Boothe Company 27

Cinematographic Annual 30, 31
Composite Laboratories 32

Davidge, Roy 32
Drem Products Corp 41
Dunning Process Co 29
DuPont Pathe Film Mfg Co ..... Inside Front Cover
Dyer, Elmer 49

Eastman Kodak Co ..... Inside Back Cover

Factor, Max 6
Fearless Camera Co 25

Coerz American Optical Co , C. P 41

Hewes-Gatham Co 42
Hoefner, Fred 48
Hollywood Camera Exchange 28

Jackman, Dr. C Floyd 49

Lakin Corp 5
Lockwood, J. R 49

Meyer & Co , Hugo 45
Mitchell Camera Corp ..... 45, Back Cover
Mole-Richardson, Inc. 2

National Carbon Co 4
National Lamp Works of Ceneral Electric Co 33

Perry, Harry 49
Priester, Harvey W 49

Scheibe, George H. 32
Smith & Aller, Inc ..... Inside Front Cover
Superior Engraving Co 28

Tanar Corporation 7
Testrite Instrument Co 43

Zeiss, Inc , Carl 47

The TRAIL AHEAD!

Don't miss the November issue of the American Cinematographer! Better than ever! More Big Features! Be sure you

Get Your Copy!

WANTED—Position Young man 23 years intelligent steady and ambitious, earnestly desires opportunity to learn cinematography or allied profession that will lead to same Hours work or salary no object Go anywhere any time Address Robert Fragano, Walnut Creek, Calif

Classified Advertising

Rates: Four cents a word. Minimum charge, one dollar per insertion.

YOUNG MAN seeks steady position under capable Cinematographer Some experience His Universal Camera Not union Willing to apply CARL NELSON 164 12 110th Road Jamaica N Y

WANTED—MOTION PICTURE CAMERAS

WANTED—For cash DeBrie Parkr Bell & Howell Standard cameras Send full description Barr Camera Company 179 West Madison Street Chicago

FOR SALE—CAMERAS

FOR SALE—Five Mitchell camera rech outfit complete Prices range from $2250 to $4500 according to age and added equipment Hollywood Camera Exchange 1511 N Cahuenga Cable address Hocamix

FOR SALE—Two Akeley camera rech outfit complete Price camera No 44 $600 No 212 $1250 Hollywood Camera Exchange, 1511 N Cahuenga Cable address Hocamex

FOR SALE—2 complete Mitchell High Speed Outfits, $3500.00 each Special price for purchaser of both Write or phone Editor of CINEMATOGRAPHER

FOR SALE OR RENT—First Class Akeley Outfit complete Phone CR 4274 or write Don B Clark, A. S. C. office.

FOR SALE—Bell & Howell Camera 170 degree, three Lenses F 2.5 Ins Mitchell tripod, four magazines, steel cases Park J Ries 1540 N Cahuenga Ave., GRanite 1185

FOR SALE Thalhammer Ins 40mm 50mm 75mm F 3.5 Lenses in B & H mounts Park J Ries 1540 N Cahuenga Ave GRanite 1185

FOR SALE OR RENT—Complete Mitchell Camera latest equipment Reasonable Henry Price Phone OX 1908 or GR 4274

FOR SALE—Mitchell Speed Camera Don B Keyes, Phone HE 1841.

FOR SALE—MISCELLANEOUS

FOR SALE—One Bell & Howell Cinemotor Like new Used for one picture J R Lockwood 1108 N Lillian Way GR-3177

FOR SALE—Akeley Camera Co 230 Tripod with Mitchell legs, baby tripod, high hat, roller pressure plate adjustable shutter 6 magazines 2 2 in F 2.7, 4 in F 2.3, 6 in F 2.7, 12 in F 5.6 lenses motor attachment, carrying cases, etc Sell cheap J P Muller, 2629 Calhoun St, New Orleans La

FOR SALE OR RENT—Mitchell Camera equipped for Sound Al Gilks, HE-1490 or A S C Office, GR-4274

FOR SALE—Lenses Accessories of all kinds, new and used Bargains Hollywood Camera Exchange, 1511 N Cahuenga Cable Address Hocamix

FOR RENT—CAMERAS

FOR RENT—Three Mitchell High Speed Cameras Equipped for sound 1000-Ft Magazines J R Lockwood 1008 North Lillian Way GR-3177

FOR RENT—Two Bell & Howell cameras Mitchell tripods large finders all F/2.3 lenses, 1000 ft magazines for B & H Also Cinemotor and friction head for Akeley work Frank Cotner 6273 Selma Ave Holly 5046

FOR RENT—Eight Bell & Howell cameras fast lenses large finders Mitchell tripods Park J Ries 1540 N Cahuenga Ave GR 1185

FOR RENT—Akeley camera outfit Mitchell tripod 6 magazines equipped up to 6 inch lenses Park J Ries 1540 N Cahuenga Ave GRanite 1185

FOR RENT—Mitchell Speed Camera, equipped for Sound Phone Don B Keyes, HE-1841

FOR RENT—2 Mitchell high speed cameras with latest 40, 50 and 75 mm Pan Astro lenses 1000 ft magazines loose head, tripod Pliny Heise 1318 N Stanley, HO 7682 or GL 2791

FOR RENT—One Mitchell Speed camera fully equipped for sound 40 50 and 75 mm and 4 and 6 inch Pan Astro lens Norman DeVol 6707 Drexel Ave ORegon 7492

FOR RENT—MISCELLANEOUS

FOR RENT Cinemotor One Mitchell and one Bell Cinemotors J R Lockwood 1108 North Lillian Way GR 3177

FOR RENT—Two Mitchell Tilthead one with Bell & Howell adapter J R Lockwood 1108 North Lillian Way GR-3177

FOR RENT—Mitchell Motor Also Mitchell Motor adapter Mitchell and Bell & Howell Cinemotors with counter and batteries Park J Ries 1540 N Cahuenga GR 1185

FOR RENT—Mitchell Gear Box with crank and shaft Mitchell Motor, 1000 ft. magazines. Phone Donald B Kyes HE-1841

FOR RENT—Mitchell friction tilthead with Bell & Howell adapter J R Lockwood 1108 N Lillian Way GRanite 3177

FOR RENT—Mitchell high speed gear box complete Pliny Heise, 1318 N Stanley, HO 7682 or GL 2791

In every state in the U. S. A and in 36 foreign countries professional and amateur cinematographers, as well as men and women in various branches of the motion picture art, read

The American Cinematographer

It has a record of 10 years' service behind it, and

a reputation as

A REAL AUTHORITY

Mr. Manufacturer:

You are missing a big opportunity if you fail to

ADVERTISE IN

The American Cinematographer

A magazine published under the auspices of
The AMERICAN SOCIETY of CINEMATOGRAPHERS
an organization composed of the
WORLD'S LEADING CAMERAMEN

« « today » »

WRITE FOR ADVERTISING RATES

increase your sales

The AMERICAN CINEMATOGRAPHER
1222 GUARANTY BUILDING HOLLYWOOD CALIFORNIA

Complete Roster at Date of Publication

OFFICERS

HAL MOHR - - - - - - - - - - - - - - - - *President*
VICTOR MILNER - - - - - - - - - - - - - - *First Vice-President*
ARTHUR MILLER - - - - - - - - - - *Second Vice-President*
CHARLES G CLARKE - - - - - - - - - - *Third Vice-President*
JOHN ARNOLD - - - - - - - - - - - - - - *Treasurer*
WILLIAM STULL - - - - - - - - - - - - - - *Secretary*

BOARD OF GOVERNORS

John Arnold
John W. Boyle
Daniel B Clark
Chas G Clarke
Elmer Dyer
Alfred Gilks
Fred Jackman
Glenn R Kershner
Victor Milner
Hal Mohr
Arthur Miller
Sol Polito
John F Seitz
William Stull
Ned Van Buren

PAST PRESIDENTS

Philip E Rosen
Homer Scott
Fred W Jackman
James Van Trees
John W. Boyle
Arthur Webb, General Counsel
Gaetano Gaudio
Daniel B. Clark
John F. Seitz

HONORARY MEMBERS

Thomas A. Edison, Orange, N J. George Eastman, Rochester, N Y.
Albert S Howell, Chicago

ASSOCIATE MEMBERS

Emery Huse, Fred Gage, Dr W B Rayton, Dr C L K Mees Loyd A Jones

Allen Paul H—
Angst Jne—Fox
Abel, David—Pathe
Arnold, John—M G M
Archer, Fred—

Boyle, John W—R-K-O
Brown, Jas S, Jr—Cal. Studio
Brunt, Georges—Paris
Binger, R D—M G M
Bell, Chas E—Ray Bell Films St Paul

Carter, Claude C—Australia
Clark Daniel B—Fox
Clarke, Chas G—Fox
Corner, Frank M—
Cowling H T—Eastman Kodak Co, Rochester, N Y
Chancellor Philip M

Davis, Chas J—Fox Movietone
DeVinna, Clyde—M-G M
Dored, John—Paramount News Paris, France
Dubray, Jos A—Bell & Howell, Chicago
Dapier, E D—Warners' Vitaphone
Dupont, Max—Vitacolor
DeVol, Norman—R K O
Dyer Elmer G—Caddo
Dyer, Edwin L—M P A Studios New Orleans

Edeson, Arthur—Fox

Falsey, Gen J, Jr—New York
Fisher, Ross G—Multicolor

Feldew, William—
Flora, Rolla—Fox
Fetters C Curtis—Fox

Gilks Alfred—Technicolor
Gray, King D—Thunder Bay Film Ltd
Guissart, Rene—Elstree Studios England
Good Frank B—Warner Bros
Gaudio, Gaetano—Warner Bros
Greenhalgh, Jack—F B O

Hilburn Percy—M G-M
Hyer, Wm C—Educational
Horne, Pliny—
Haller Ernest—First National
Herbert, Chas W—Fox Movietone, New York

Jackman Dr Floyd 1st Nat Bank Bldg Hollywood
Jackman Fred—Technical Director, Warner Bros
June, Ray—United Artists

Kershner Glen—First National
Kornekamp H F—Warner Bros
Kurtle Roht E—Tec-Art
Keyes, Donald B—United Artists.

Lundin, Walter—Harold Lloyd, Metropolitan
Lockwood J R—
Lang, Chas B—Paramount
Linden, Carly—Paramount

Marsh, Oliver—M G M

Miller Arthur—Pathe
Mohr, Hal—Universal
McDonell, Claude—London, England
MacWilliams Glen—Fox
Morgan, Ira H—M G M
Milner, Victor—Paramount
Marta, Jack A—Fox

Nagle, George G—M G M

O Connell, L Wm—Fox

Parrish Fred—Colorado Springs Colo
Pahle Ted—Pathe New York
Palmer Ernest—Fox.
Powers Len—
Perry, Paul P—United Artists
Perry, Harry—Caddo Prod
Polito Sol—First National
Pomeroy Roy—

Roos, Len H—Len H Roos Laboratories, Hollywood
Rose Jackson J—James Cruze Prod
Rosher Chas—M G M
Ries, Park J—
Ritchie Eugene Roht—Lasky
Rees, Wm A—Warner Bros Vitaphone

Schoenbaum, Chas—Technicolor
Stengler Mark—Sennett Studios
Stevens, George—Hal Roach
Straus Karl—United Artists
Stutzenich Harold—Eastman Kodak Co, Bombay

Sharp Henry—United Artists Doug Fairbanks
Schneiderman, Geo—Fox Movietone
Scott, Homer A—
Seitz, John F—First National
Snyder Edward J—Metropolitan
Shearer, Douglas G—M G M
Stull, Wm—
Smith, Jack.

Tolhurst Louis H—M G M
Tappenbeck, Hatto—Fox

Van Trees, James—
Van Enger, Chas J—Fox
Van Buren, Ned—Eastman Kodak Co Hollywood.
Van Rossem, Walter J—
Varges Ariel—Fox Hearst Corp, Tokyo, Japan

Wagner, Sidney C—Fox
Walker, Joseph—Columbia
Walker Vernon L—Warner Bros
Wrigley, Dewey—Metropolitan
Wyckoff Alvin—Multicolor
Wenstrom, Harold—
Whitman, Phil H—
Wilky L Guy—
Warrenton, Gilbert—Universal
Williams Frank D—
Westerberg, Fred—United Artists

Zucker Frank C—Photophone, New York

This is what counts!

EVERY quality demanded by the camera man is incorporated in Eastman Panchromatic Negative, *Type 2.* But what counts most of all is the roll-to-roll uniformity which gives such splendid results day in and day out. It is because of this factor in particular that more and more camera men daily are turning to Eastman "Pan".

EASTMAN KODAK COMPANY

ROCHESTER, NEW YORK

J. E. Brulatour, Inc., Distributors

New York Chicago Hollywood

Part of the lathe section of our plant in which our Standard and Wide Film Cameras are made.

Our thoroughly equipped plant enables us to handle special work which always receives the same careful attention that we give to the manufacturing of our cameras.

Your inquiries on special work are solicited

Mitchell Camera Corporation

655 N Robertson Blvd West Hollywood, Calif
Cable address "MITCAMCO Phone OXford 1051